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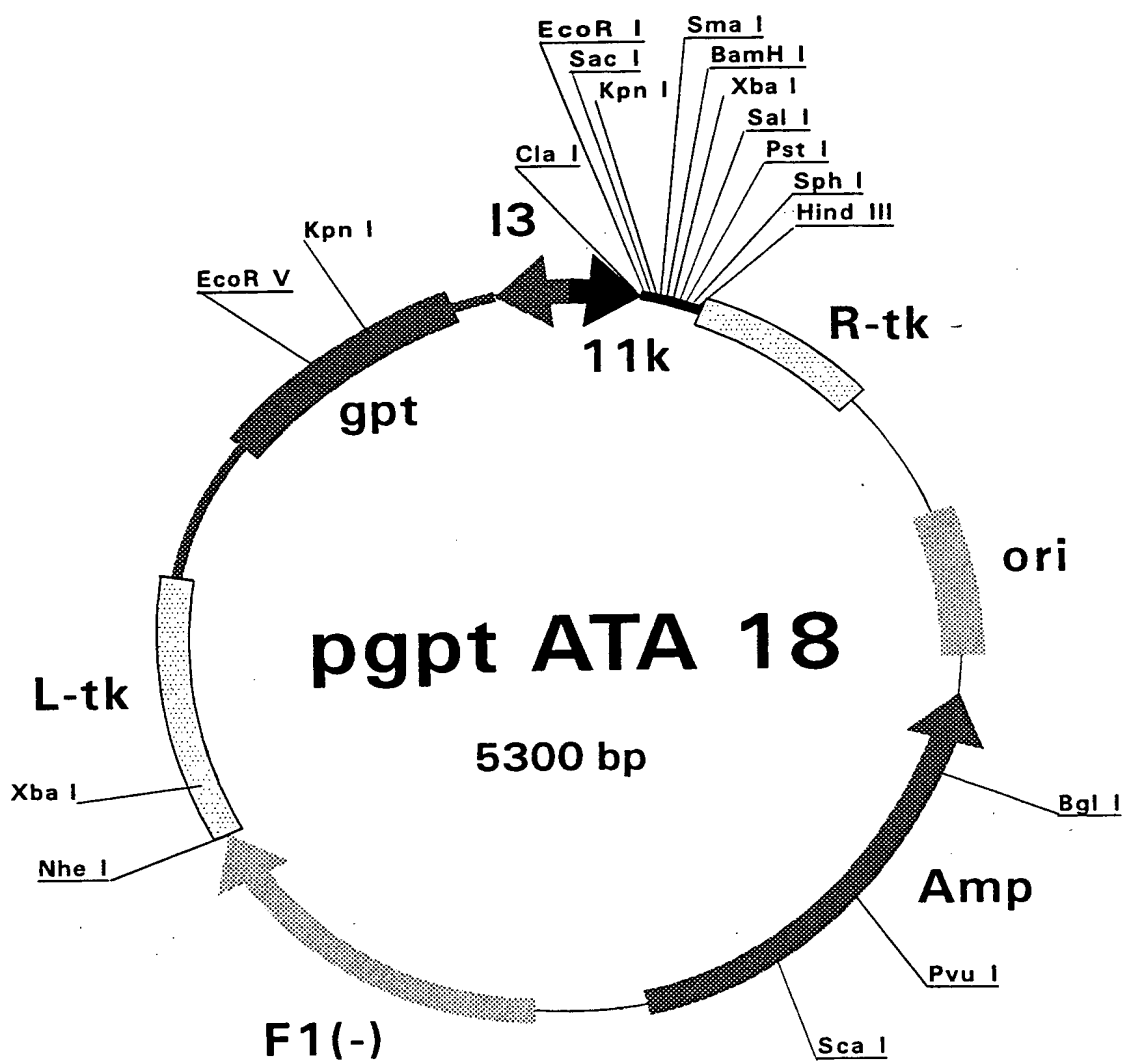


Fig. 1



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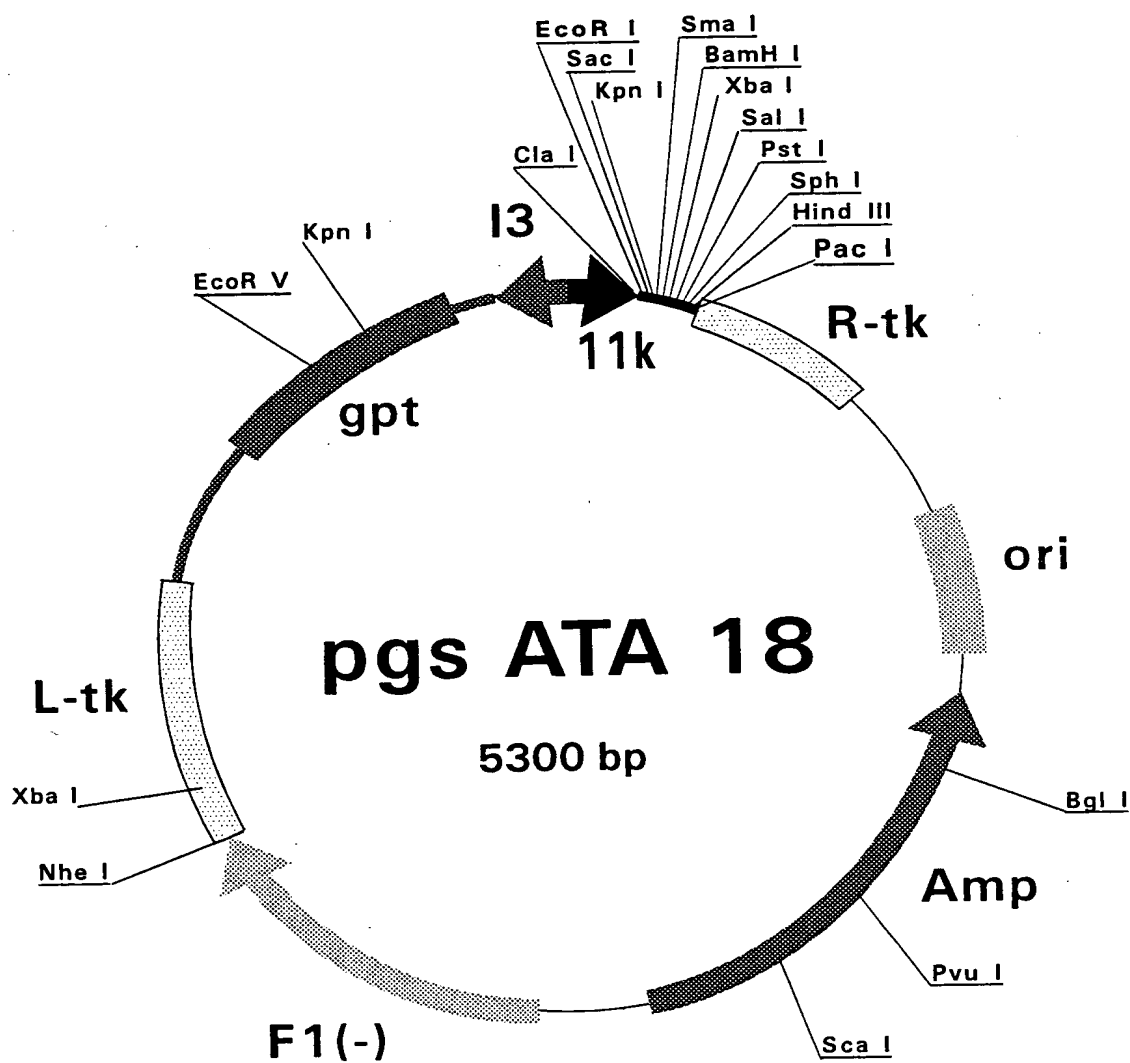


Fig. 2



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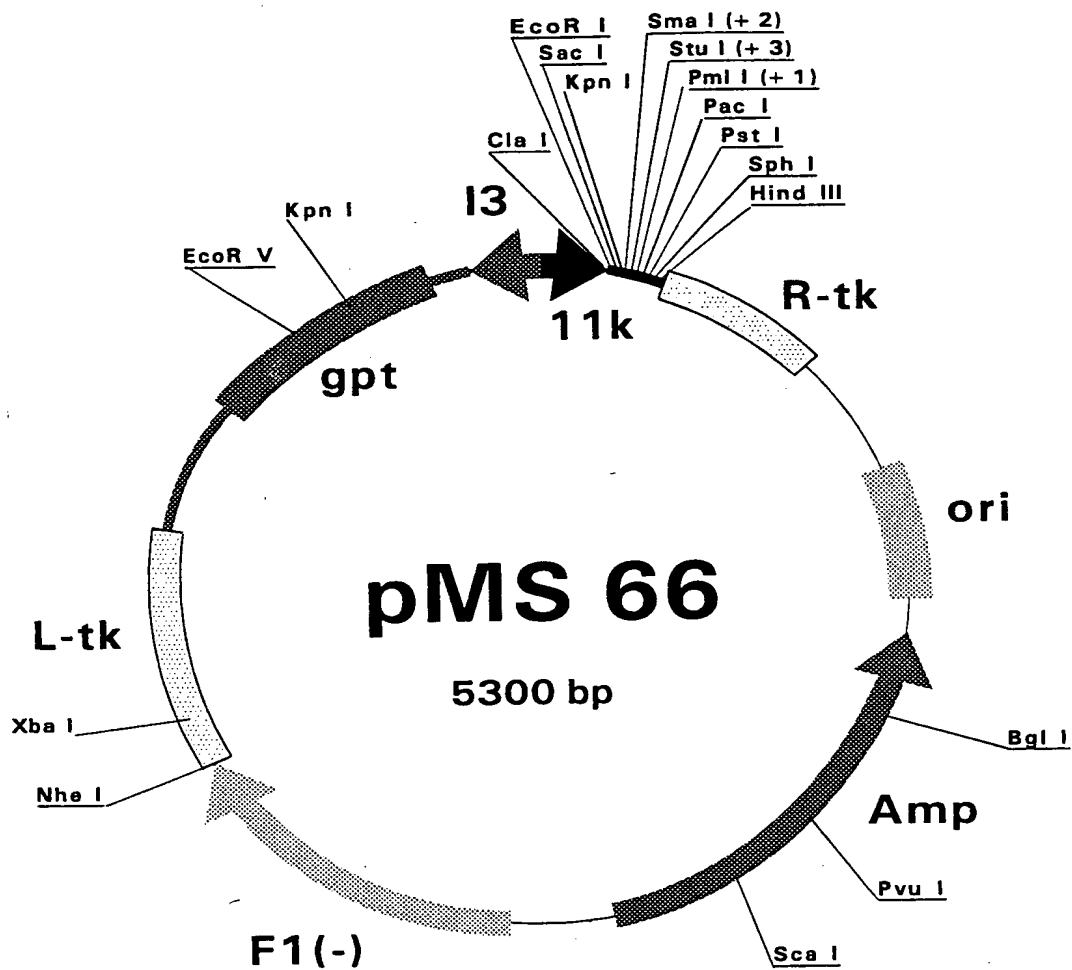


Fig. 3

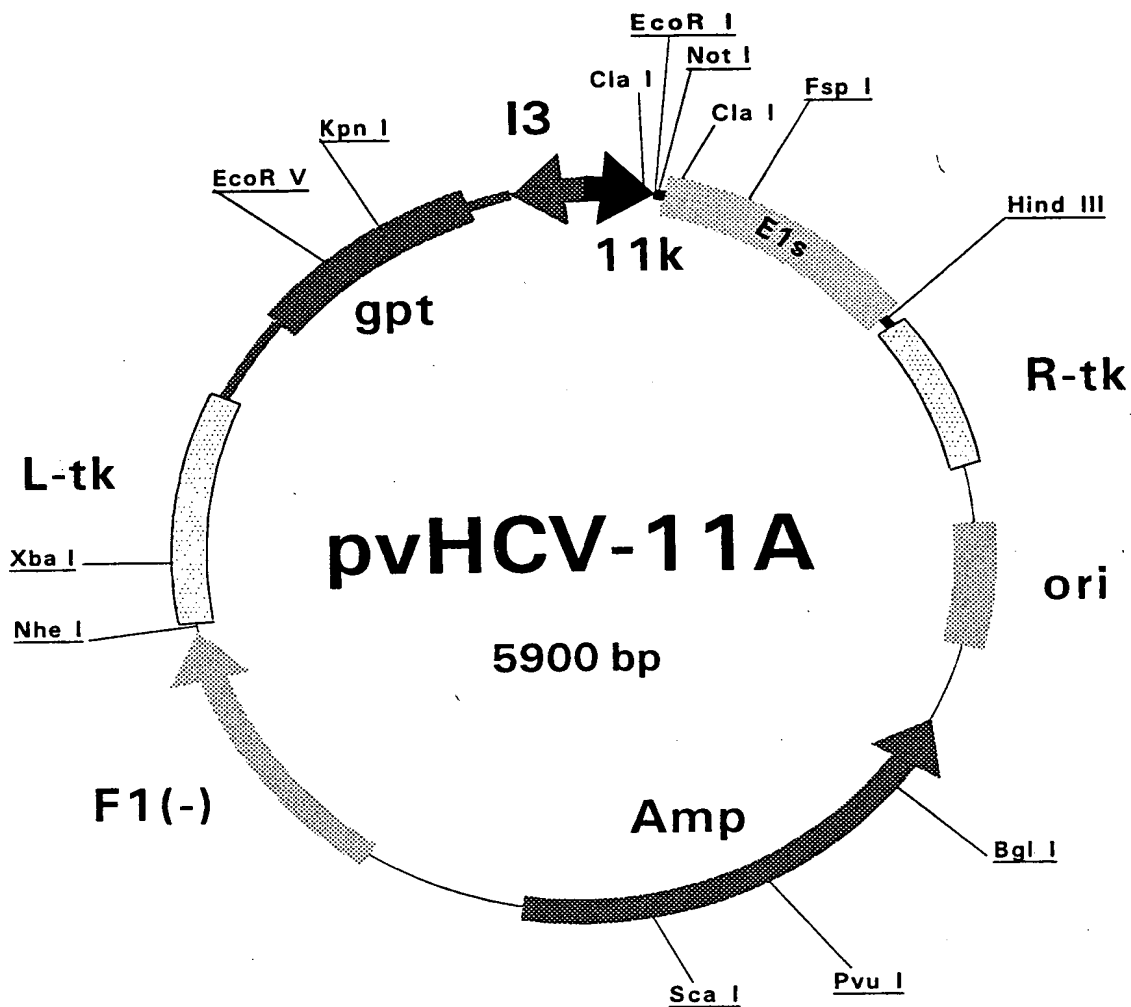
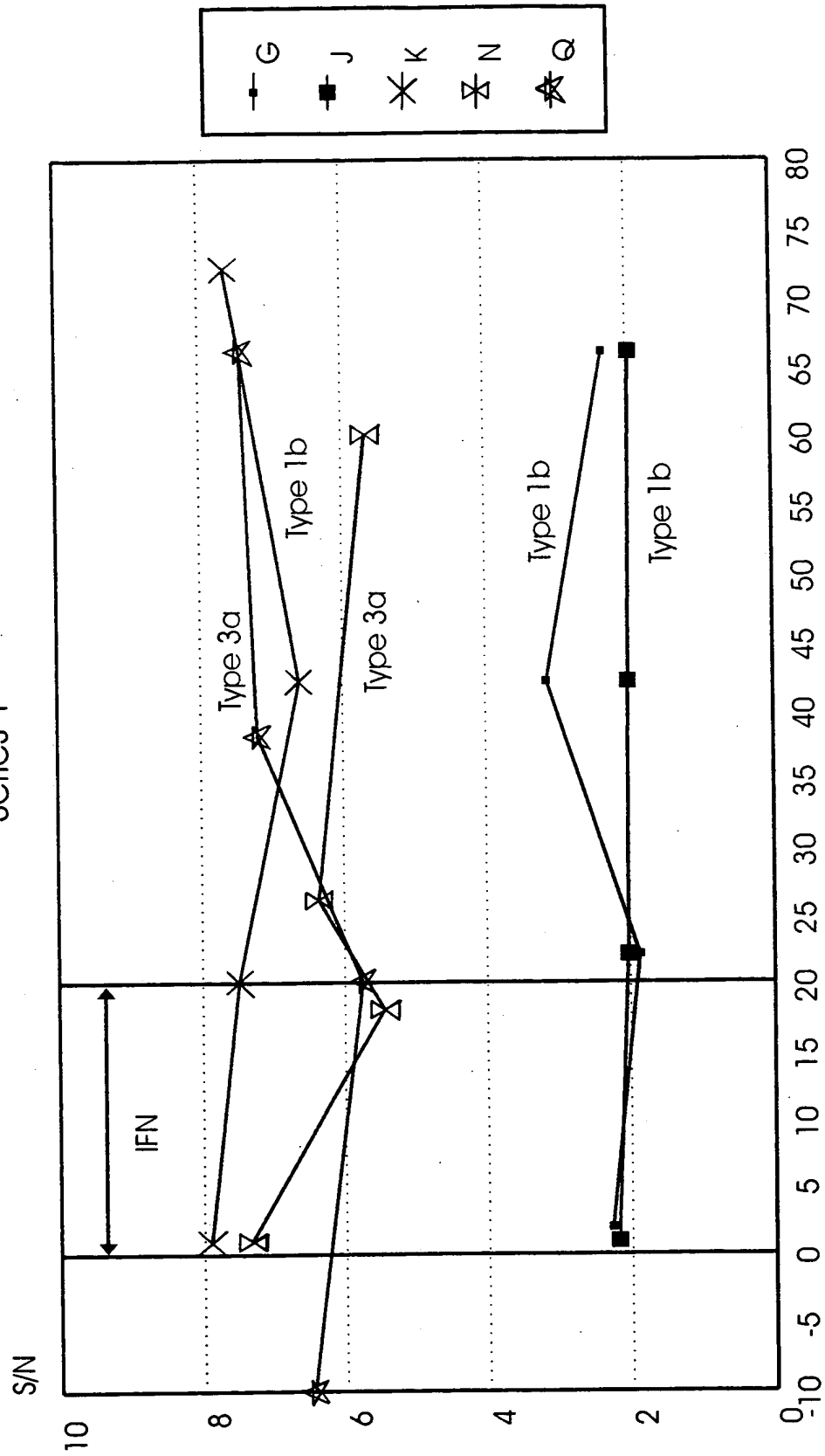


Fig. 4

# Anti-E1 levels in NON-responders to IFN treatment

Series 1

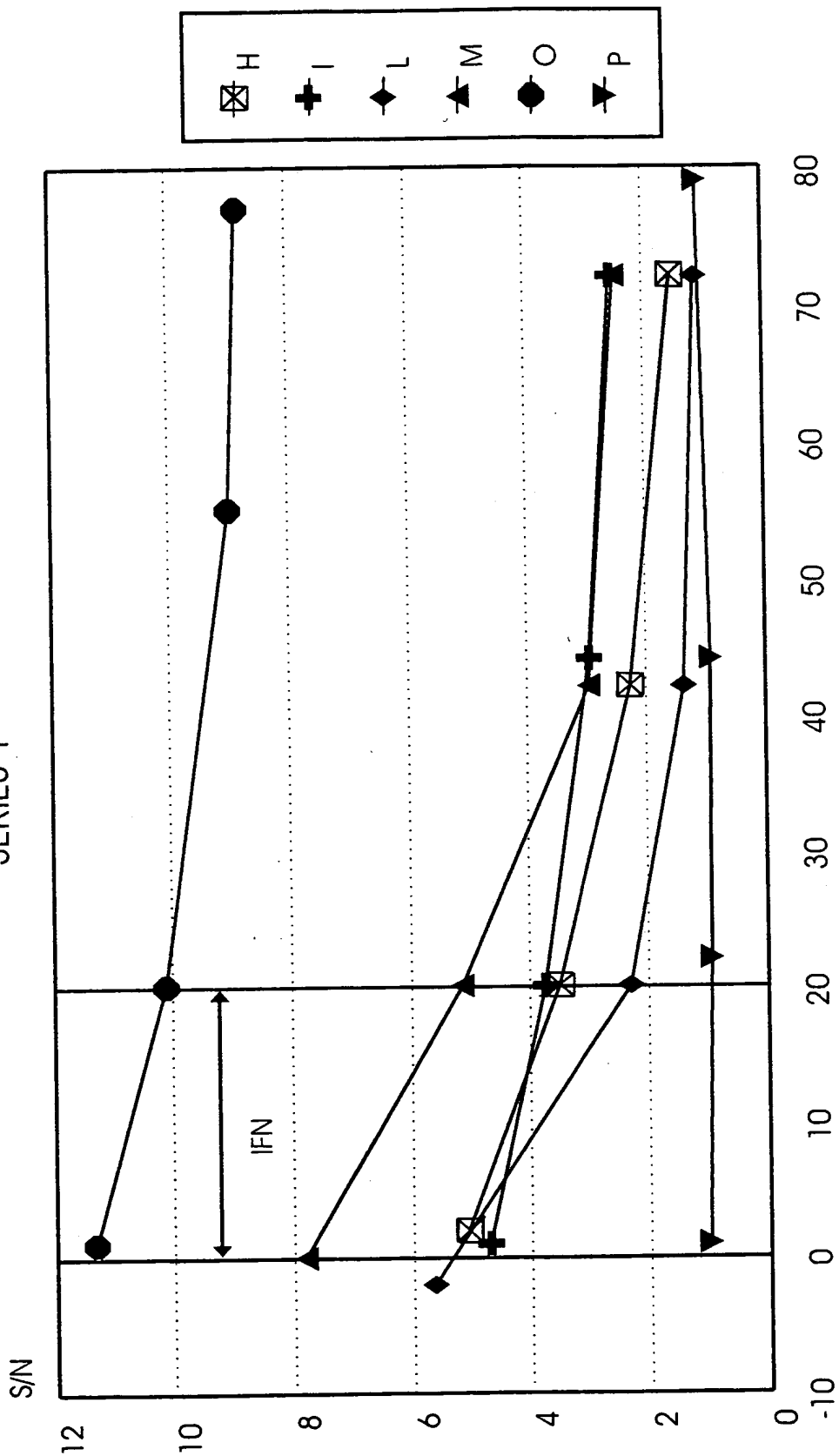


weeks after start of treatment

Fig. 5

# Anti-E1 levels in RESPONDERS to IFN treatment

SERIES 1



weeks after start of treatment

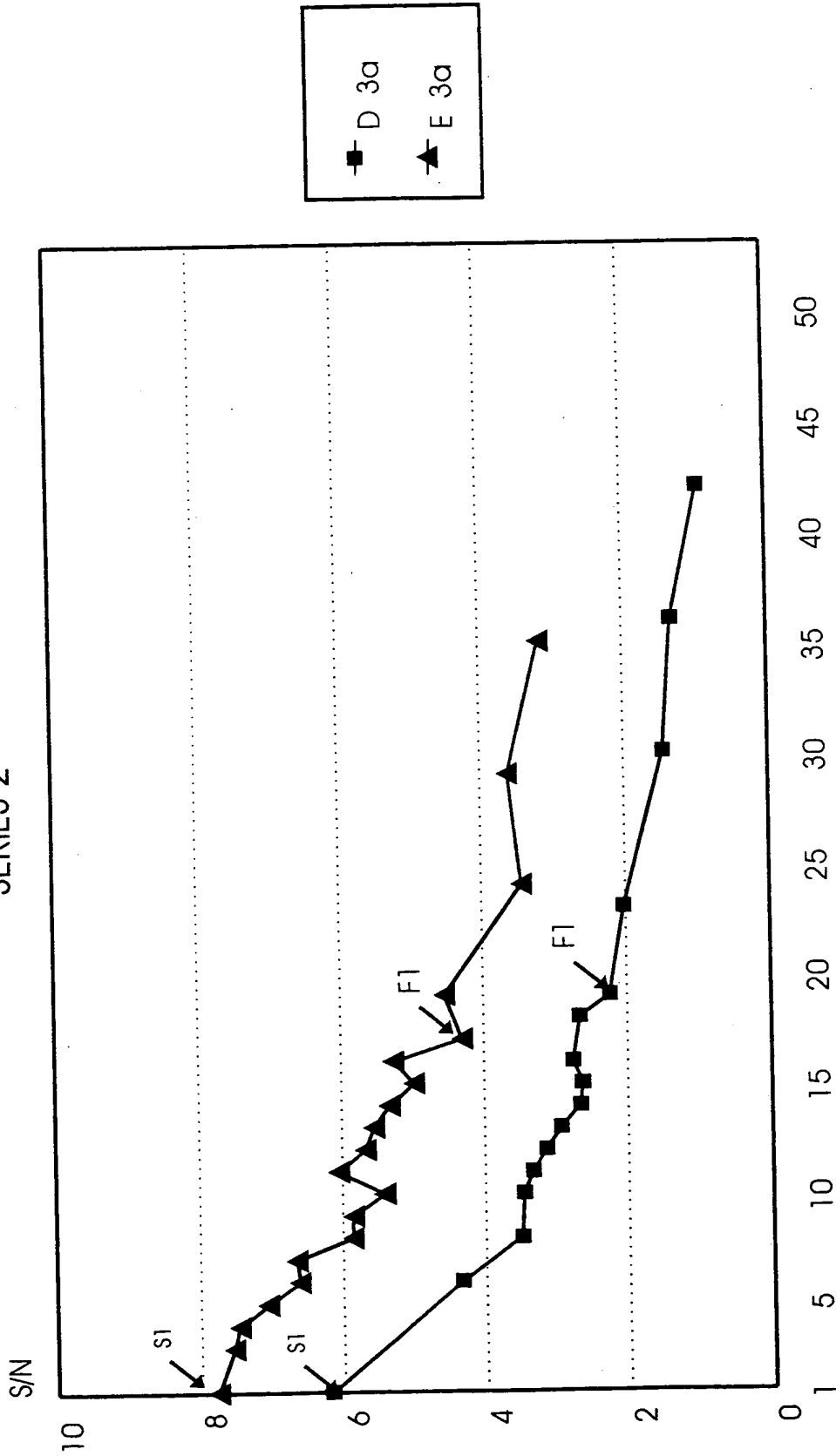
Fig. 6



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# Anti-E1 levels in patients with COMPLETE response to IFN

SERIES 2

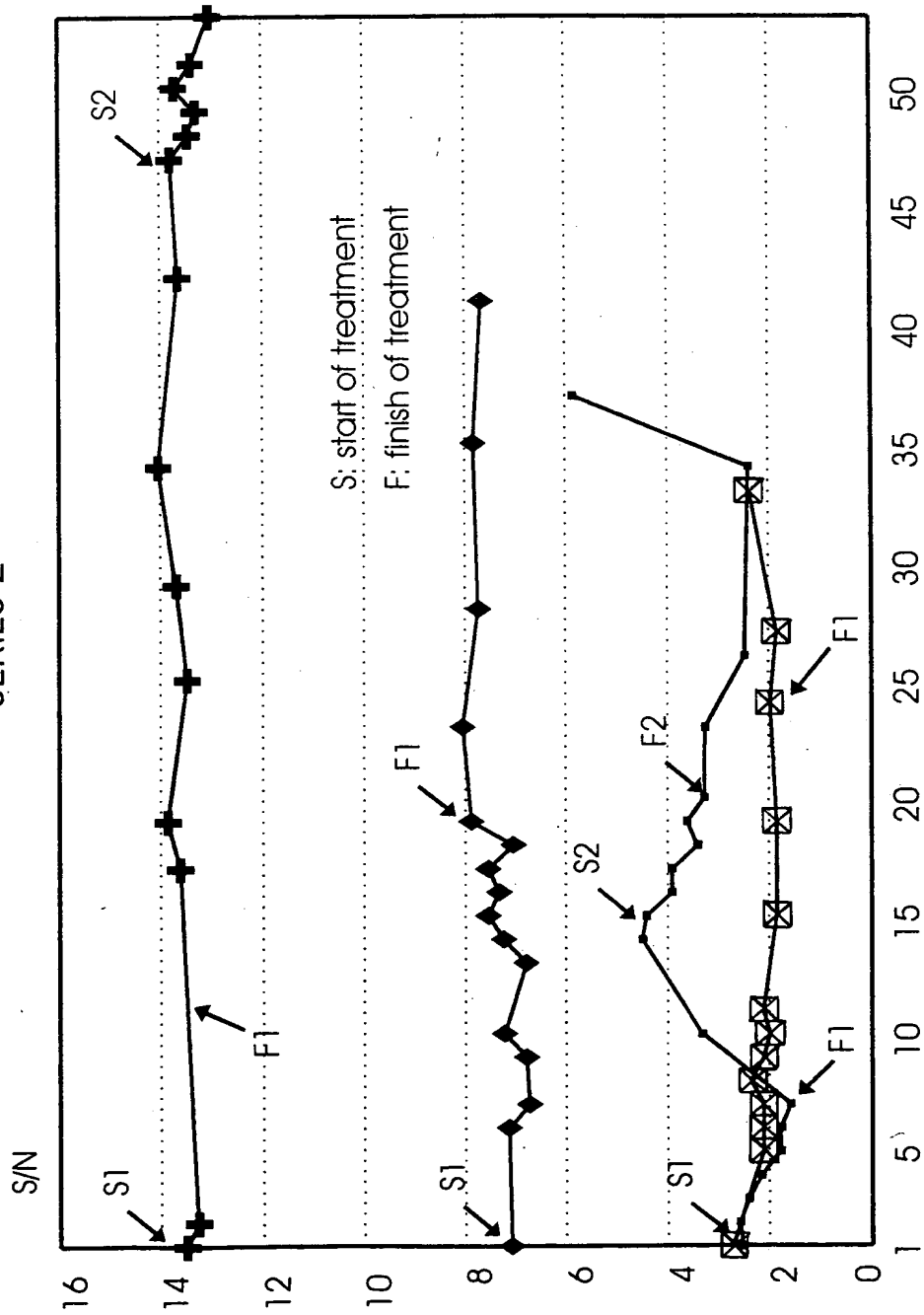


months after start of treatment

Fig. 7

# Anti-E1 levels in INCOMPLETE responders to IFN treatment

## SERIES 2



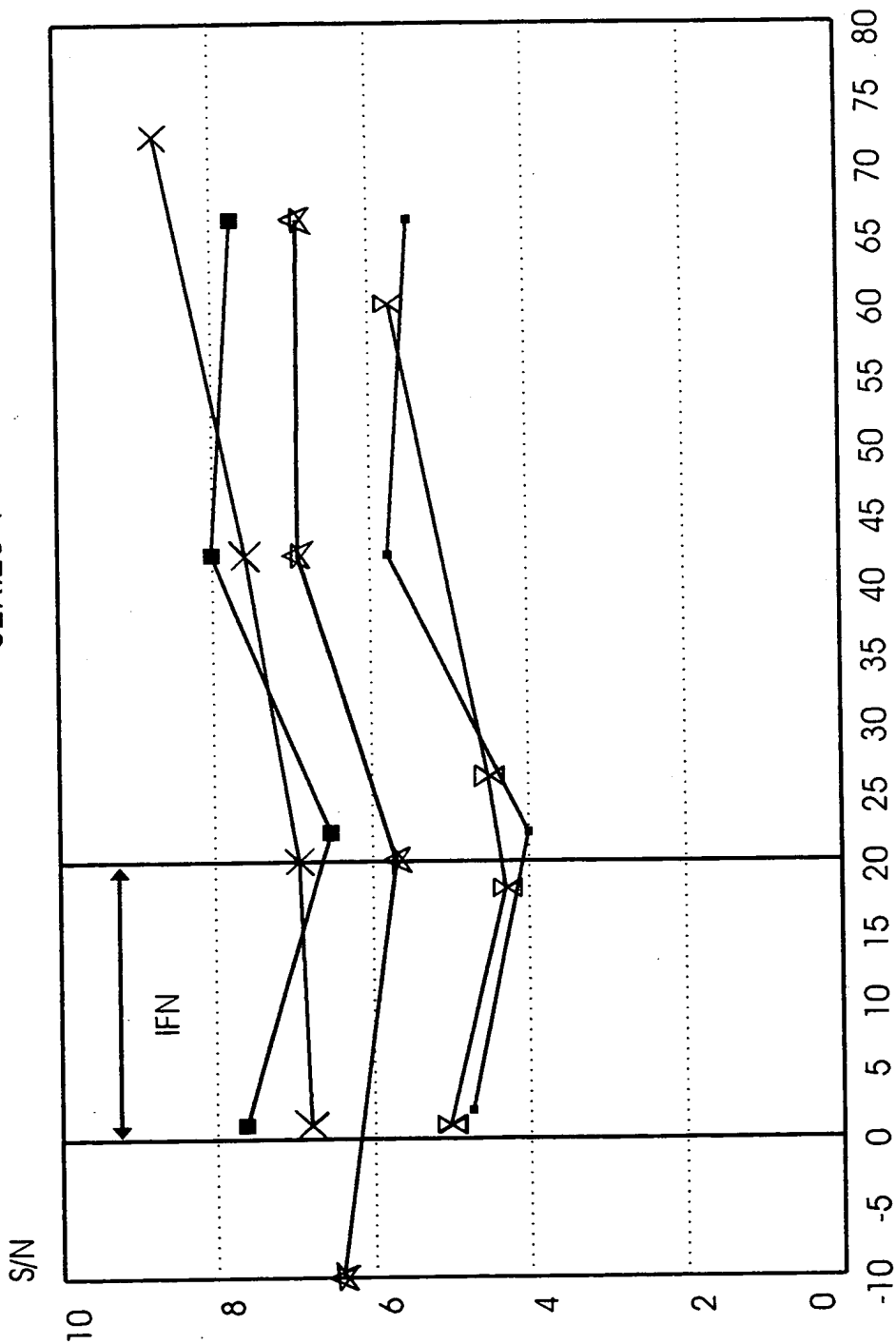
months after start of treatment

Fig. 8



# Anti-E2 levels in NON-RESPONDERS to IFN treatment

SERIES 1

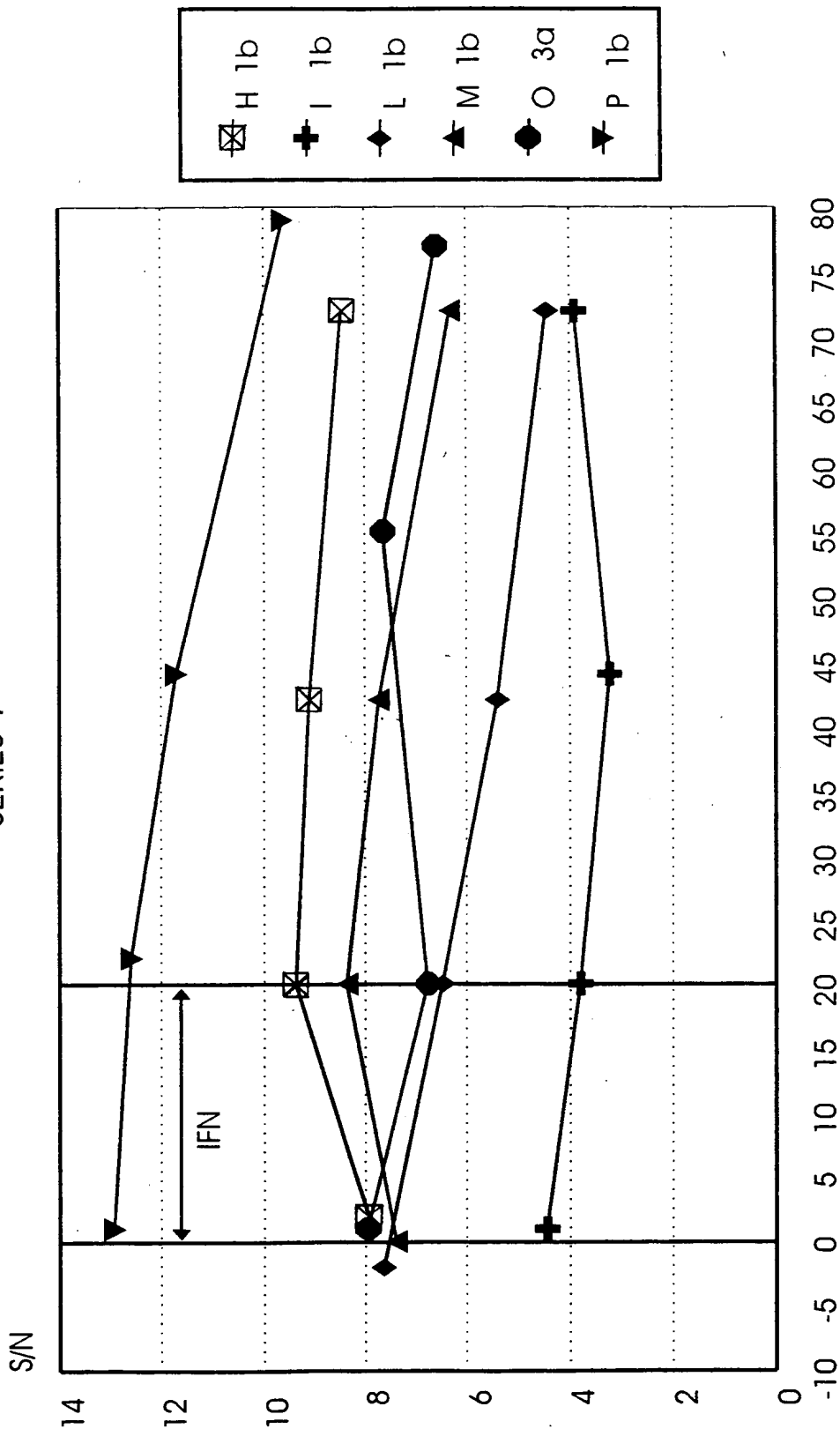


weeks after start of treatment

Fig. 9

# Anti-E2 levels in RESPONDERS to IFN treatment

SERIES 1



weeks after start of treatment

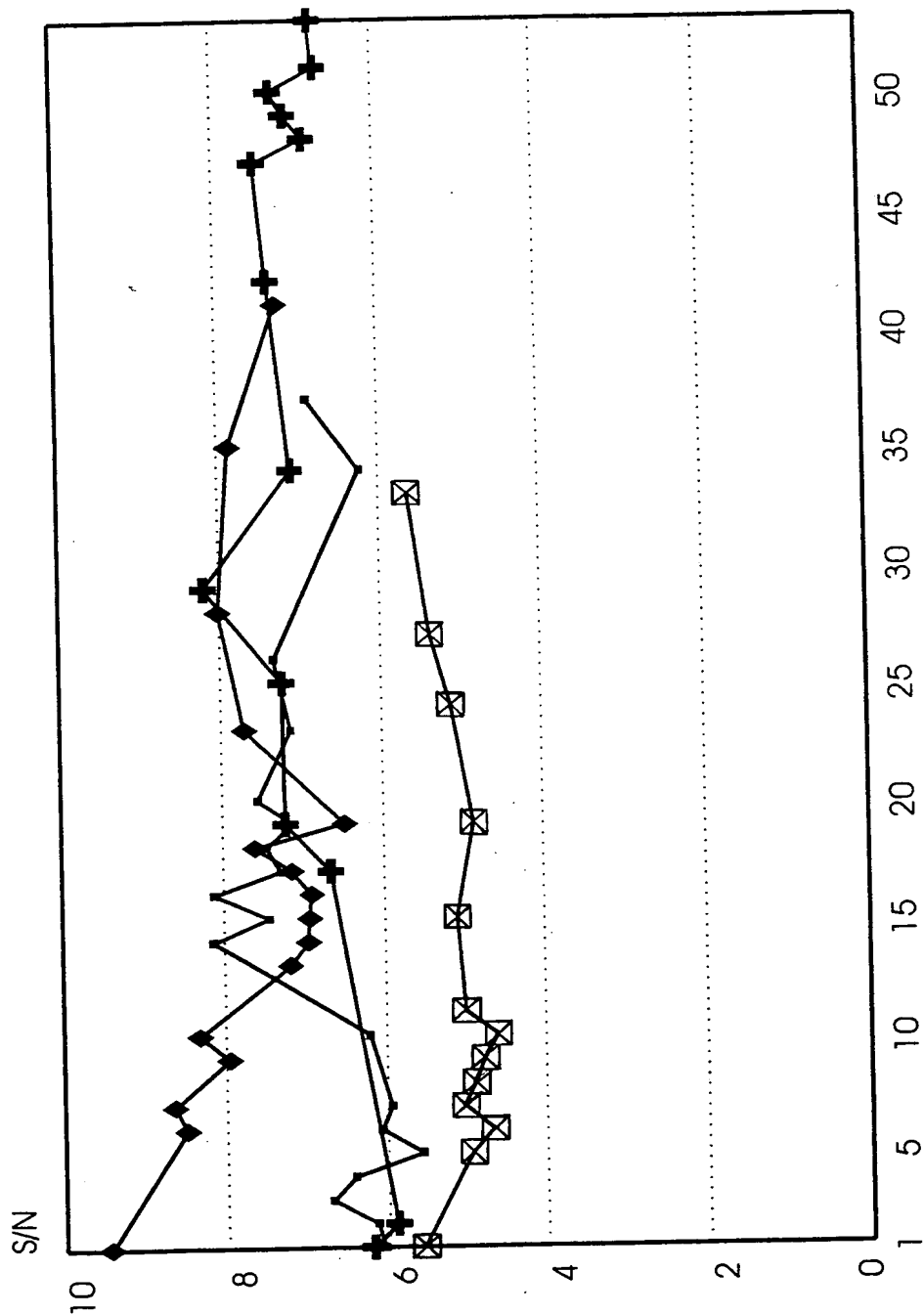
Fig.10



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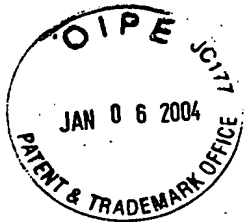
# Anti-E2 levels in INCOMPLETE responders to IFN treatment

## SERIES 2



months after start of treatment

Fig.11



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# Anti-E2 levels in COMPLETE responders to IFN treatment

SERIES 2

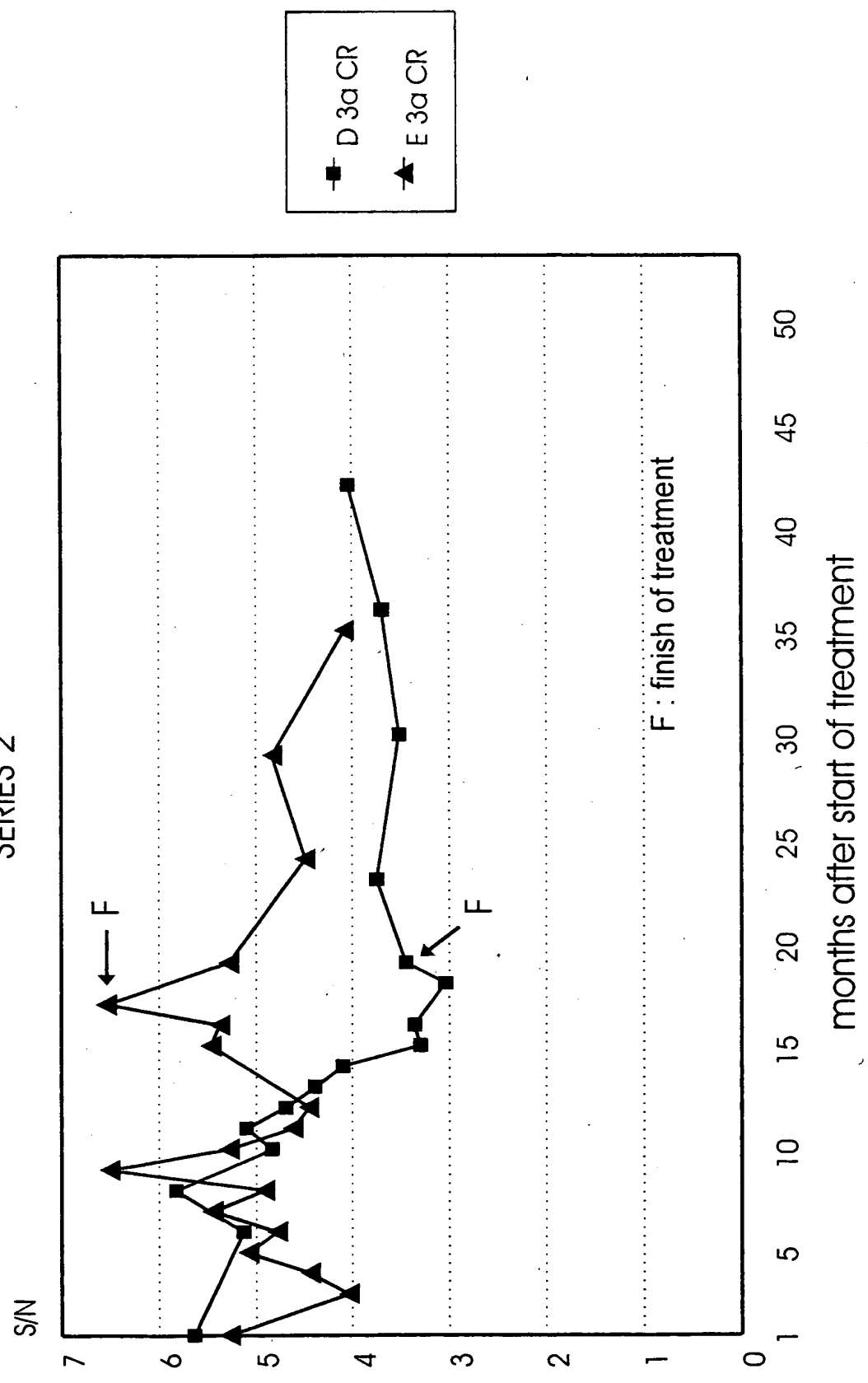


Fig.12

# Human anti-E1 reactivity competed with peptides

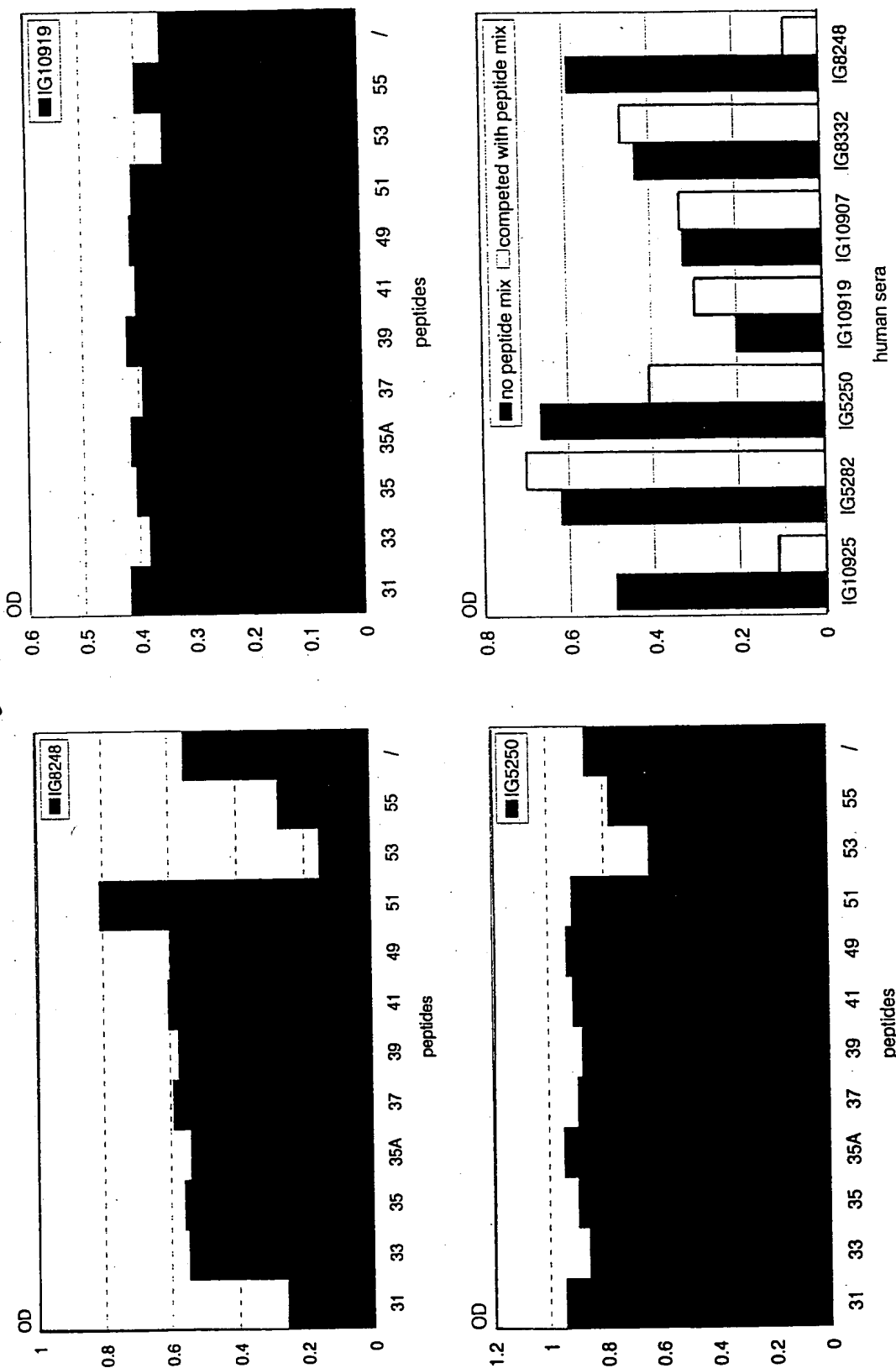


Fig.13

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# Competition of reactivity of anti-E1 Mabs with peptides

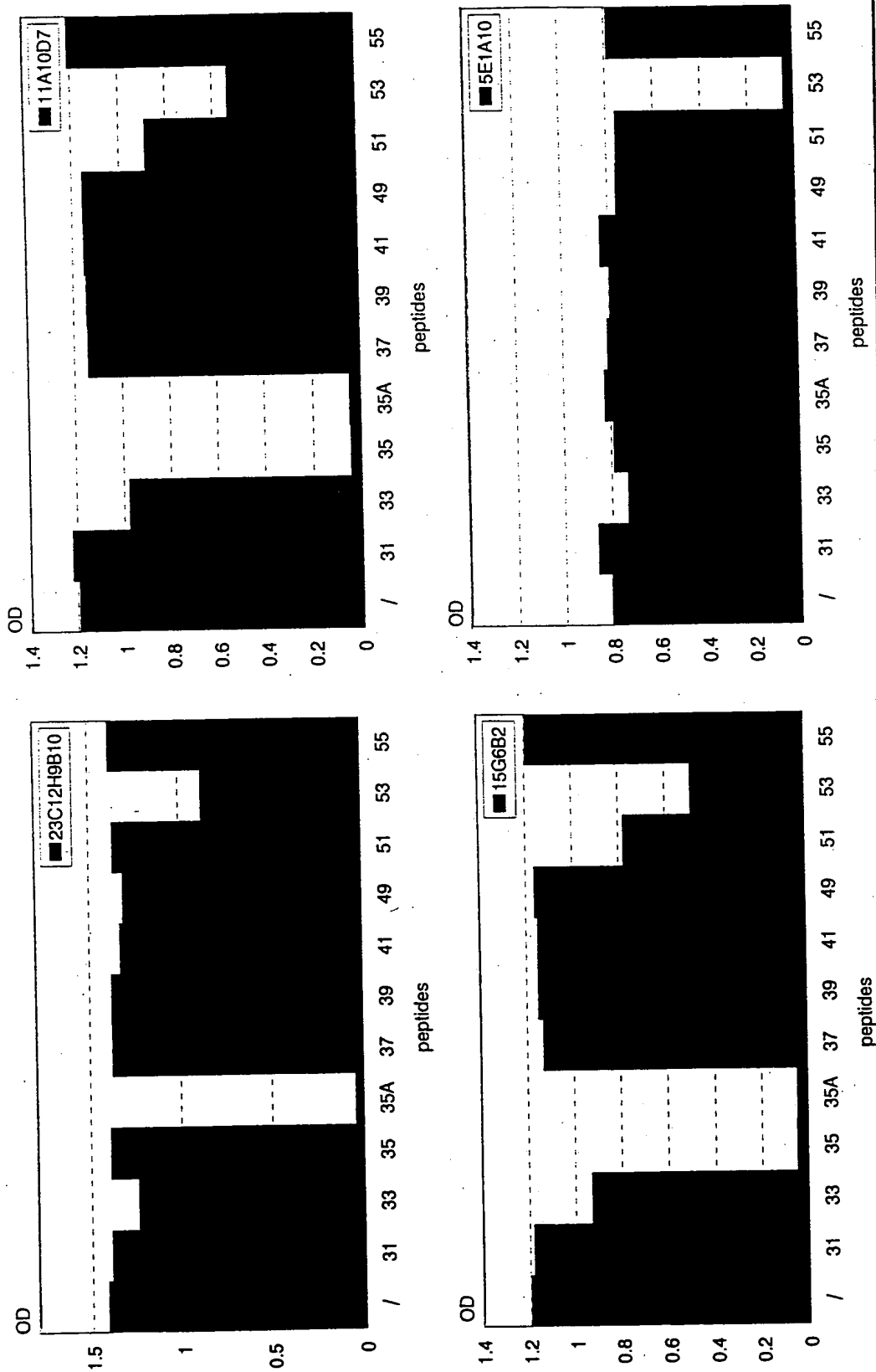
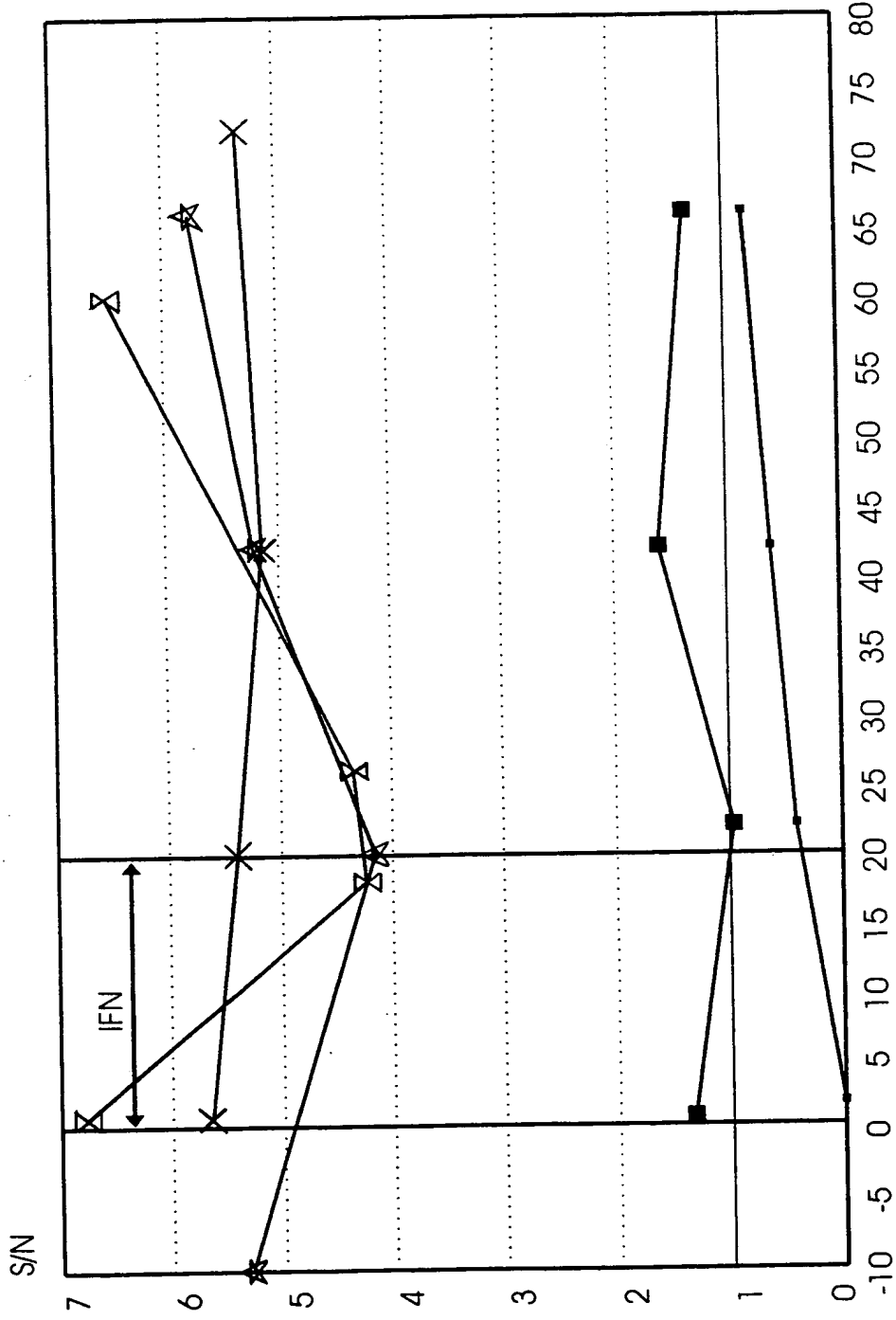


Fig.14

# Anti-E1 (epitope 1) levels in NON-RESPONDERS to IFN treatment

SERIES 1

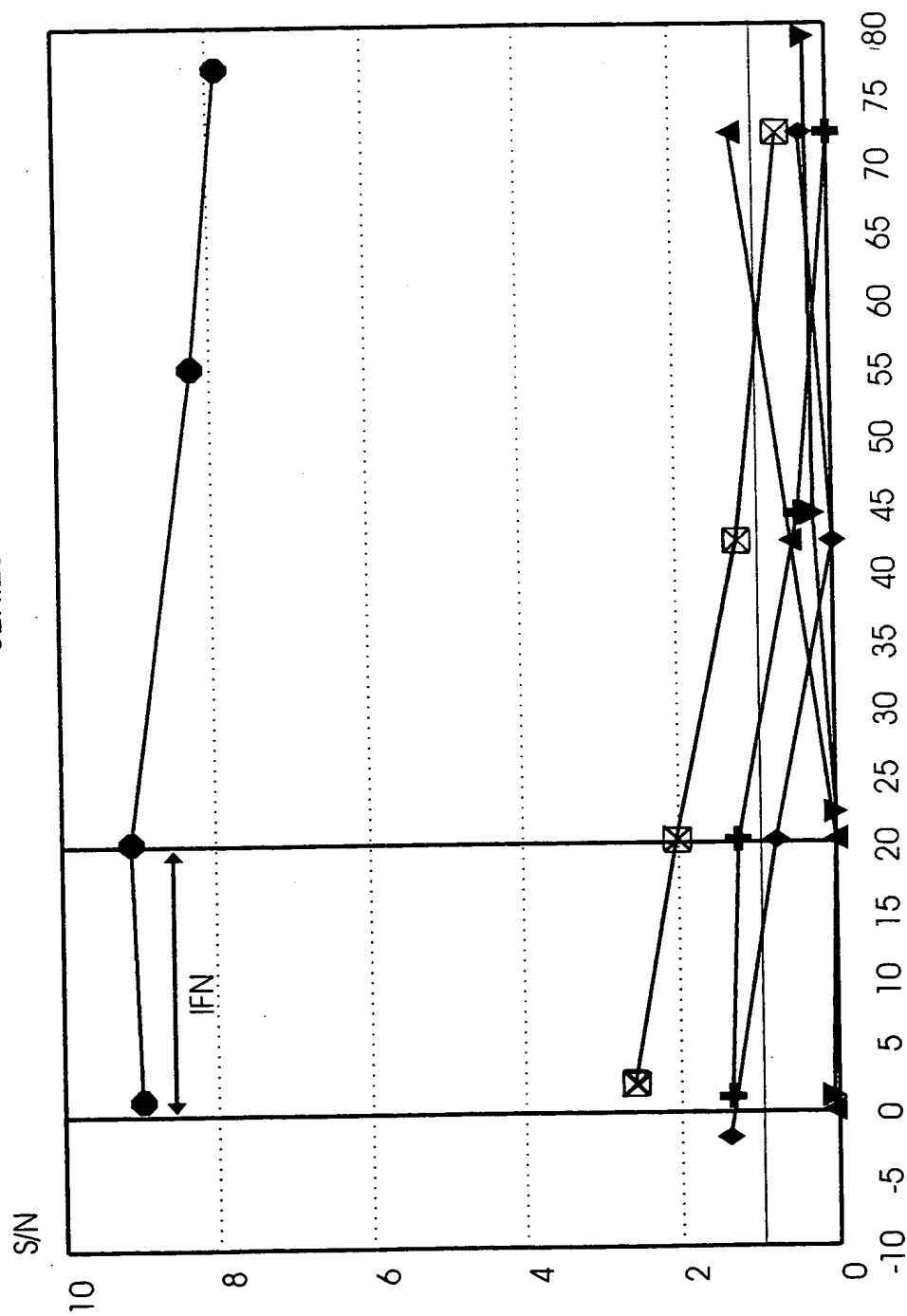


weeks after start of treatment

Fig.15

# Anti-E1 (epitope 1) levels in RESPONDERS to IFN treatment

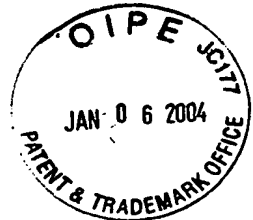
SERIES 1



weeks after start of treatment

Fig.16





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# Anti-E1 (epitope 2) levels in NON-RESPONDERS to IFN treatment

SERIES 1

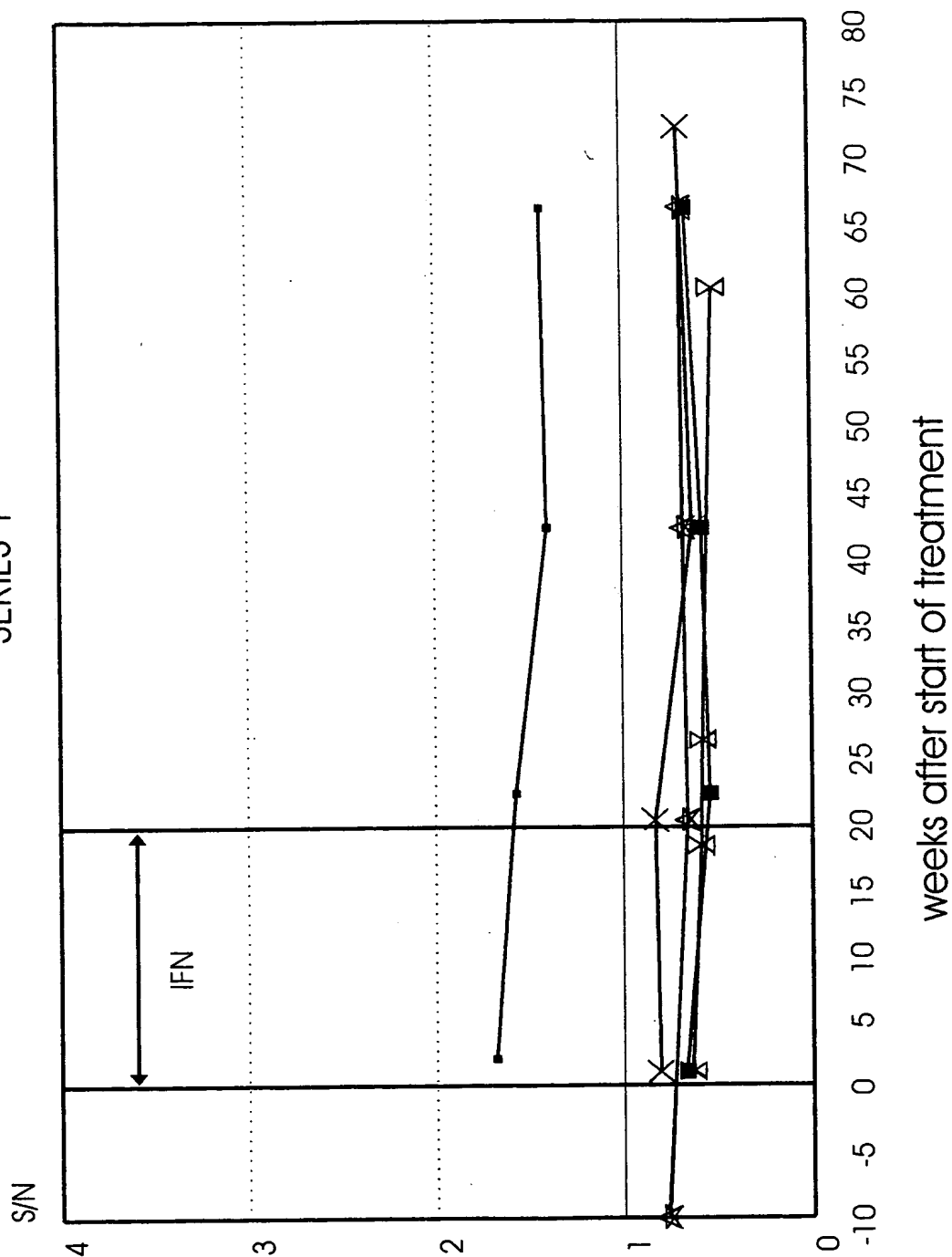
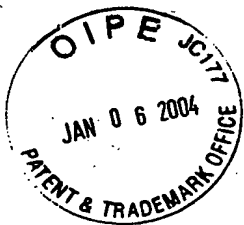


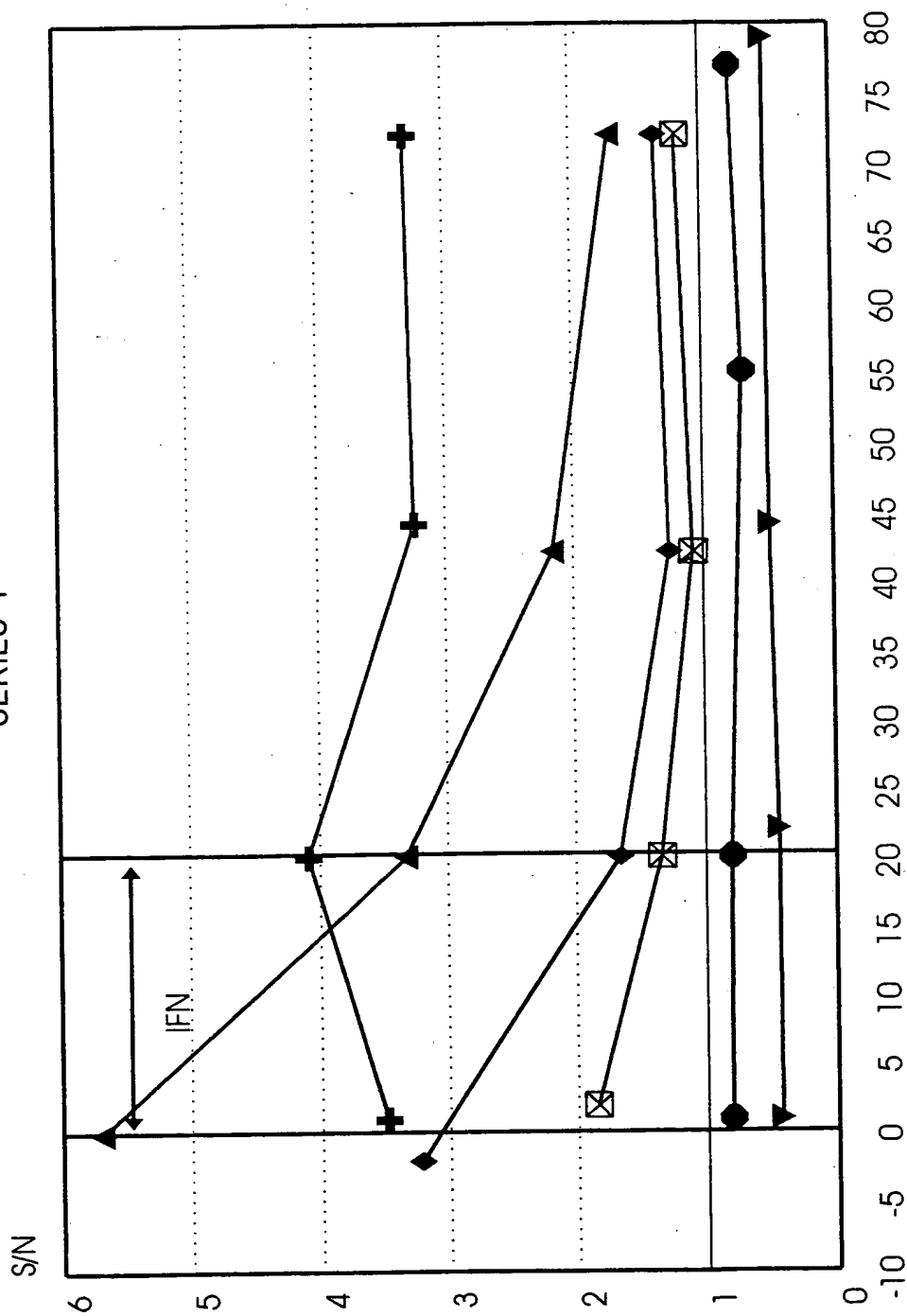
Fig.17



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# Anti-E1 (epitope 2) levels in RESPONDERS to IFN treatment

SERIES 1



weeks after start of treatment

Fig.18

# Competition of reactivity of anti-E2 Mabs with peptides

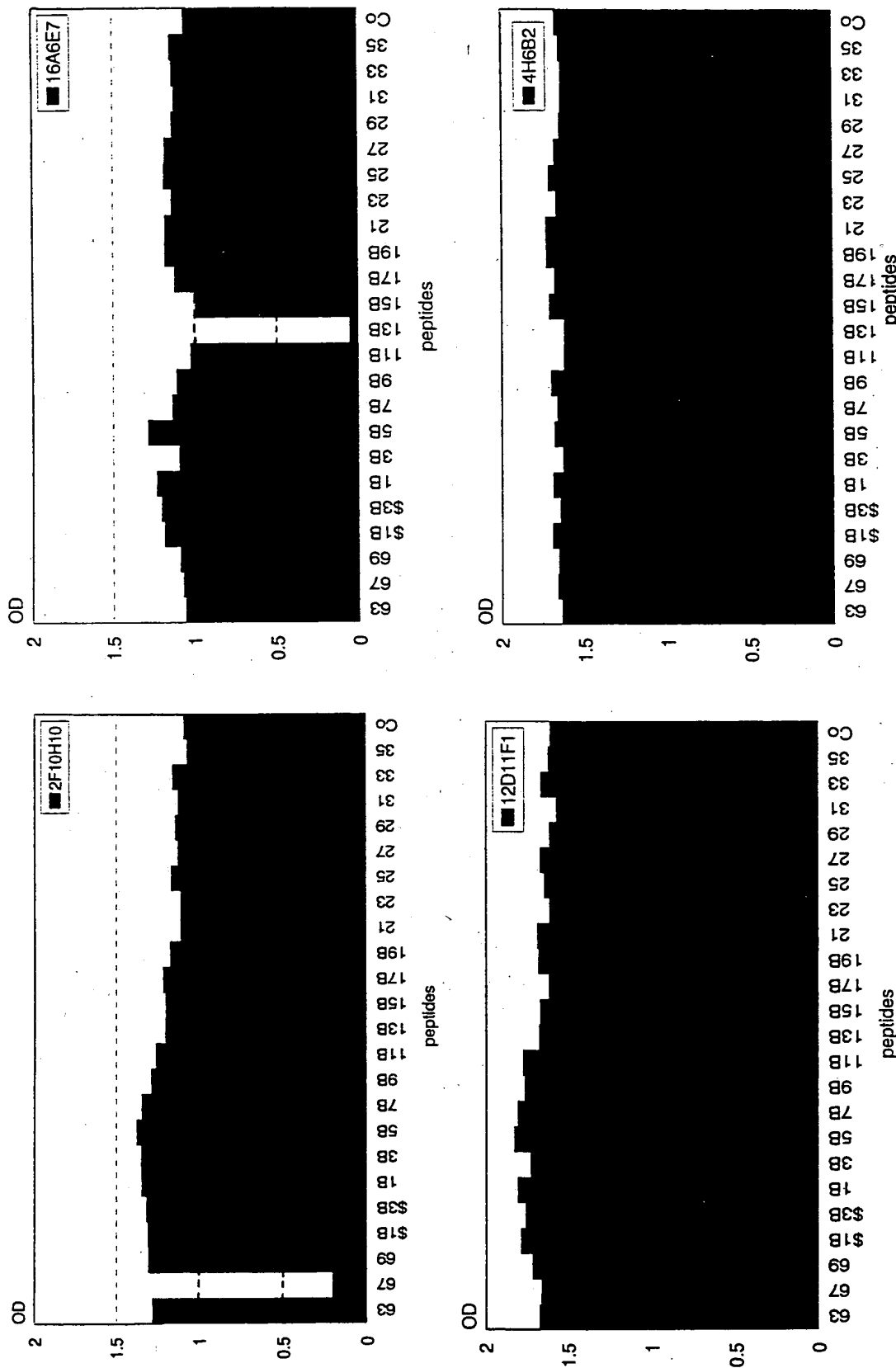


Fig.19



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# Human anti-E2 reactivity competed with peptides

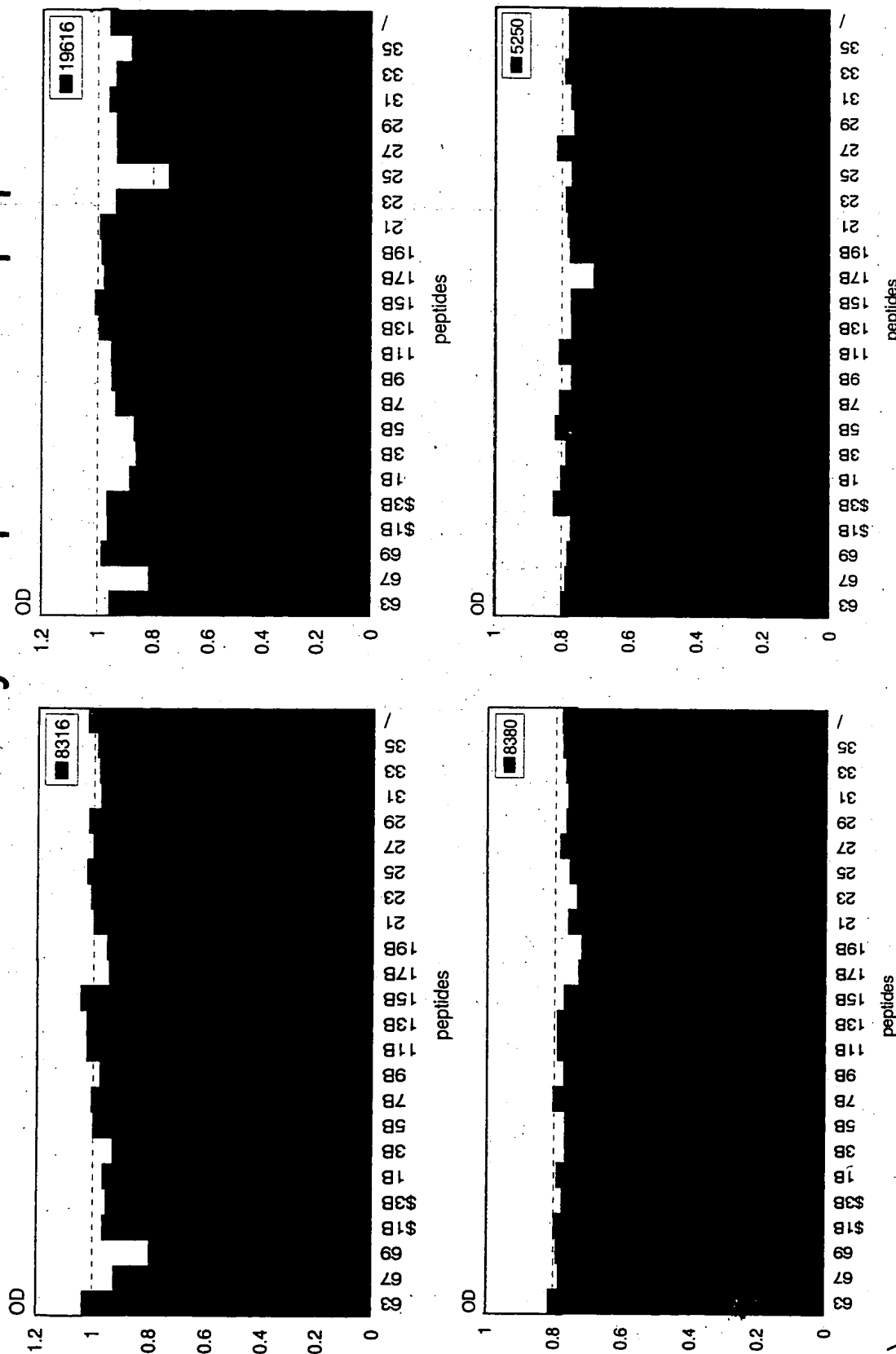
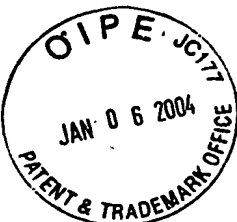


Fig. 20



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Fig. 21A

5' GGCATGCAAGCTTAATTAATT3' (SEQ ID NO 1)  
3'ACGTCCGTACGTTCTGAATTAATTAATCGA5' (SEQ ID NO 94)

5'CCGGGGAGGCCTGCACGTGATCGAGGGCAGACACCATCACCACCATCACTAATAGT  
TAATTAAGTCA 3' (SEQ ID NO 2)  
3'CCTCCGGACGTGCACTAGCTCCCGTCTGTGGTAGTGGTGGTAGTGATTATCAATTAATTG  
5' (SEQ ID NO 95)

SEQ ID NO 3 (HCCI9A)  
ATGCCCCGGTTGCTCTTTCTCTATCTTCCTCTTGGCTTTACTGTCCTGTCTGACCATTCCA  
GCTTCCGCTTATGAGGTGCGCAACGTGTCCGGGATGTACCATGTACGAACGACTGCT  
CCAACTCAAGCATTGTGTATGAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGT  
GCCCTGCGTTTCGGGAGAACAACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTC  
GCAGCTAGGAACGCCAGCGTCCCCACCACGACAATACGACGCCACGTGATTGCTCG  
TTGGGGCGGCTGCTCTCTGTTCCGCTATGTACGTGGGGGATCTCTGCGGATCTGTCTTC  
CTCGTCTCCCAGCTGTTACCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCA  
ATTGCTCAATCTATCCCGGCCACATAACAGGTCACCGTATGGCTTGGGATATGATGAT  
GAACTGGTCGCCTACAACGGCCCTGGTGGTATCGCAGCTGCTCCGGATCCCACAAGCT  
GTCGTGGACATGGTGGCGGGGGCCATTGGGGAGTCCTGGCGGGCCTCGCCTACTATT  
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SEQ ID NO 5 (HCCI10A)  
ATGTTGGGTAAGGTCATCGATACCCTTACATGCGGCTTCGCCGACCTCGTGGGGTACA  
TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG  
GGTTCTGGAGGACGGCGTGAACATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT  
ATCTTCTCTTGGCTTTGCTGTCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTGATTTGCTCGTTGGGGCGGCTGCTTTCTG



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Fig. 21B

TTCCGCTATGTACGTGGGGGACCTCTGCGGATCTGTCTTCCTCGTCTCCCAGCTGTTCA  
CCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGG  
CCACATAACGGGTACCGTATGGCTTGGGATATGATGATGAACTGGTCGCCTACAACG  
GCCCTGGTGGTATCGCAGCTGCTCCGGATCCCACAAGCTGTCGTGGACATGGTGGCGG  
GGGCCCATTGGGGAGTCCTGGCGGGTCTCGCCTACTATTCCATGGTGGGGAACTGGGC  
TAAGGTTTTGATTGTGATGCTACTCTTTGCTCCCTAATAG

SEQ ID NO 7 (HCCI11A)

ATGTTGGGTAAGGTCATCGATACCCTTACGTGCGGCTTCGCCGACCTCATGGGGTACA  
TTCCGCTCGTCGGCGCCCCCTAGGGGGTGCTGCCAGAGCCCTGGCGCATGGCGTCCG  
GGTTCTGGAAGACGGCGTGAACATGCAACAGGGAATTTGCCTGGTTGCTCTTTCTCTA  
TCTTCCTCTTGGCTTTACTGTCCTGTCTGACCATTCCAGCTTCCGCTTATGAGGTGCGC  
AACGTGTCCGGGATGTACCATGTCACGAACGACTGCTCCAACCAAGCATTGTGTATG  
AGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCCGGGAGAACA  
ACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCGT  
CCCCACTACGACAATACGACGCCACGTGATTTGCTCGTTGGGGCGGGCTGCTTTCTGTT  
CCGCTATGTACGTGGGGGATCTCTGCGGATCTGTCTTCCTCGTCTCCCAGCTGTTCAAC  
ATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCC  
ACATAACAGGTCACCGTATGGCTTGGGATATGATGATGAACTGGTAATAG

SEQ ID NO 9 (HCCI12A)

ATGCCCGGTTGCTCTTTCTCTATCTTCCTCTTGGCCCTGCTGTCCTGTCTGACCATACCA  
GCTTCCGCTTATGAAGTGCGCAACGTGTCCGGGGTGTACCATGTCACGAACGACTGCT  
CCAACCAAGCATAGTGTATGAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGT  
GCCCTGCGTTCCGGGAGGGCAACTCCTCCCGTTGCTGGGTGGCGCTCACTCCCACGCTC  
GCGGCCAGGAACGCCAGCGTCCCCACAACGACAATACGACGCCACGTGATTTGCTC  
GTTGGGGCTGCTGCTTTCTGTTCCGCTATGTACGTGGGGGATCTCTGCGGATCTGTTTT  
CCTTGTTTCCAGCTGTTACCTTCTCACCTCGCCGGCATCAAACAGTACAGGACTGCA  
ACTGCTCAATCTATCCCGGCCATGTATCAGGTCACCGCATGGCTTGGGATATGATGAT  
GAACTGGTCCTAATAG

SEQ ID NO 11 (HCCI13A)

ATGTCCGGTTGCTCTTTCTCTATCTTCCTCTTGGCCCTGCTGTCCTGTCTGACCATACCA  
GCTTCCGCTTATGAAGTGCGCAACGTGTCCGGGGTGTACCATGTCACGAACGACTGCT  
CCAACCAAGCATAGTGTATGAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGT



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## Fig. 21C

GCCCTGCGTTCGGGAGGGCAACTCCTCCCGTTGCTGGGTGGCGCTCACTCCCACGCTC  
GCGGCCAGGAACGCCAGCGTCCCCACAACGACAATACGACGCCACGTCGATTTGCTC  
GTTGGGGCTGCTGCTTTCTGTTCCGCTATGTACGTGGGGGATCTCTGCGGATCTGTTTT  
CCTTGTTTCCCAGCTGTTACCTTCTCACCTCGCCGGCATCAAACAGTACAGGACTGCA  
ACTGCTCAATCTATCCCGGCCATGTATCAGGTCACCGCATGGCTTGGGATATGATGAT  
GAACTGGTAATAG

SEQ ID NO 13 (HCCI17A)

ATGCTGGGTAAGGCCATCGATACCCTTACGTGCGGCTTCGCCGACCTCGTGGGGTACA  
TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG  
GGTTCTGGAAGACGGCGTGAACTATGCAACAGGGAATTTGCCTGGTTGCTCTTTCTCTA  
TCTTCCTCTTGGCTTTACTGTCCTGTCTAACCATTCCAGCTTCCGCTTACGAGGTGCGC  
AACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACTCAAGCATTGTGTATG  
AGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCCGGGAGAACA  
ACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCGGCTAGGAACGCCAGCAT  
CCCCACTACAACAATACGACGCCACGTCGATTTGCTCGTTGGGGCGGCTGCTTTCTGTT  
CCGCTATGTACGTGGGGGATCTCTGCGGATCTGTCTTCCTCGTCTCCCAGCTGTTACCC  
ATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCC  
ACATAACGGGTCACCGTATGGCTTGGGATATGATGATGAACTGGTACTAATAG

SEQ ID NO 15 (HCP51)

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SEQ ID NO 16 (HCP52)

ATGTTGGGTAAGGTCATCGATACCCT

SEQ ID NO 17 (HCP53)

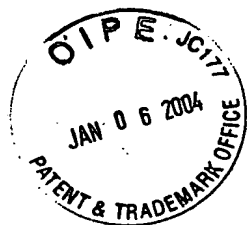
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SEQ ID NO 18 (HCP54)

CTATTACCAGTTCATCATCATATCCCA

SEQ ID NO 19 (HCP107)

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## Fig. 21D

SEQ ID NO 20 (HCP108)

GATGGTGAACAGCTGGGAATCGACGTGGCGTCGTAT

SEQ ID NO 21 (HCCI37)

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TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG  
GGTTCTGGAGGACGGCGTGAACTATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT  
ATCTTCCTCTTGGCTTTGCTGTCTGTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTGATTCCCAGCTGTTCAACCATCTCGCCTCG  
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT  
CACCGTATGGCTTGGGATATGATGATGAACTGGTCGCCTACAACGGCCCTGGTGGTAT  
CGCAGCTGCTCCGGATCCCACAAGCTGTCGTGGACATGGTGGCGGGGGCCATTGGGG  
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TGATGCTACTCTTTGCTCCCTAATAG

SEQ ID NO 23 (HCCI38)

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TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG  
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ATCTTCCTCTTGGCTTTGCTGTCTGTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTGATTCCCAGCTGTTCAACCATCTCGCCTCG  
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CACCGTATGGCTTGGGATATGATGATGAACTGGTAA  
TAG

SEQ ID NO 25 (HCCI39)

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GGTTCTGGAGGACGGCGTGAACTATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT





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## Fig. 21E

ATCTTCCTCTTGGCTTTGCTGTCCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTGCGATTCCCAGCTGTTCAACCATCTCGCCTCG  
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT  
CACCGTATGGCTTGGGATATGATGATGAACTGGTCGCCTACAACGGCCCTGGTGGTAT  
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SEQ ID NO 27 (HCCI40)

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GGTTCTGGAGGACGGCGTGAACATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT  
ATCTTCCTCTTGGCTTTGCTGTCCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTGCGATTCCCAGCTGTTCAACCATCTCGCCTCG  
CCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGGCCACATAACGGGT  
CACCGTATGGCTTGGGATATGATGATGAACTGGTCGCCTACAACGGCCCTGGTGGTAT  
CGCAGCTGCTCCGGATCGTGATCGAGGGCAGACACCATCACCACCATCACTAATAG

SEQ ID NO 29 (HCCI62)

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CGCTCGTCGGCGCTCCCGTAGGAGGGCGTCGCAAGAGCCCTTGCGCATGGCGTGAGGGC  
CCTTGAAGACGGGATAAATTTGCAACAGGGAATTTGCCCGGTTGCTCCTTTTCTATTT  
TCCTTCTCGCTCTGTTCTCTTGCTTAATTCATCCAGCAGCTAGTCTAGAGTGGCGGAAT  
ACGTCTGGCCTCTATGTCCTTACCAACGACTGTTCCAATAGCAGTATTGTGTACGAGGC  
CGATGACGTTATTCTGCACACACCCGGCTGCATACCTTGTGTCCAGGACGGCAATACA  
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CCGCTTCGATACGCAGTCATGTGGACCTATTAGTGGGCGCGGCCACGATGTGCTCTGC  
GCTCTACGTGGGTGACATGTGTGGGGCTGTCTTCCTCGTGGGACAAGCCTTCACGTTCA  
GACCTCGTCGCCATCAAACGGTCCAGACCTGTAAGTCTCGCTGTACCCAGGCCATCT  
TTCAGGACATCGAATGGCTTGGGATATGATGATGAACTGGTAATAG



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## Fig. 21F

SEQ ID NO 31 (HCCI63)

ATGGGTAAGGTCATCGATACCCTAACGTGCGGATTGCGCGATCTCATGGGGTATATCC  
CGCTCGTAGGCGGCCCCATTGGGGGCGTCGCAAGGGCTCTCGCACACGGTGTGAGGGT  
CCTTGAGGACGGGGTAAACTATGCAACAGGGAATTTACCCGGTTGCTCTTTCTCTATCT  
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CCTCTGGGATTTATCATGTTACCAATGATTGCCCAAACCTCTTCCATAGTCTATGAGGCA  
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GTAGATGCTGGGTCCAAATTACCCCTACACTGTCAGCCCCGAGCCTCGGAGCAGTCAC  
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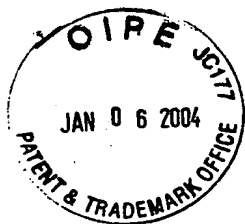
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SEQ ID NO 34 (HCP72)

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SEQ ID NO 35 (HCCL22A)

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TTTGCCGGCGTCGACGGGCATACCCGCGTGTGAGGAGGGGCAGCAGCCTCCGATACCA  
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CAACGGCAGTTGGCACATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAAC  
AGGGTTCTTTGCCGCACTATTCTACAAACACAAATTCAACTCGTCTGGATGCCAGAG  
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## Fig. 21G

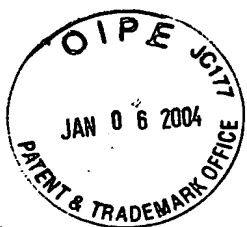
CATTACCCATATAGGCTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGT  
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AGGAGAGCGTTGTGACTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTG  
TCTACAACAGAGTGGCAGATACTGCCCTGTTCTTACCACCCTGCCGGCCCTATCCA  
CCGGCCTGATCCACCTCCATCAGAACATCGTGGACGTGCAATACCTGTACGGTGTAGG  
GTCGGCGGTTGTCTCCCTTGTTCATCAAATGGGAGTATGTCCTGTTGCTCTTCTTCTCCT  
GGCAGACGCGCGCATCTGCGCCTGCTTATGGATGATGCTGCTGATAGCTCAAGCTGAG  
GCCGCCTTAGAGAACCTGGTGGTCTCAATGCGGCGGCCGTGGCCGGGGCGCATGGC  
ACTCTTTCCTTCTTGTGTTCTTCTGTGCTGCCTGGTACATCAAGGGCAGGCTGGTCCC  
TGGTGCGGCATACGCCTTCTATGGCGTGTGGCCGCTGCTCCTGCTTCTGCTGGCCTTAC  
CACCACGAGCTTATGCCTAGTAA

SEQ ID NO 37 (HCCI41)

GATCCCACAAGCTGTCGTGGACATGGTGGCGGGGGCCCATTTGGGGAGTCCTGGCGGG  
CCTCGCCTACTATTCCATGGTGGGGAACTGGGCTAAGGTTTTGGTTGTGATGCTACTCT  
TTGCCGGCGTCGACGGGCATACCCGCGTGTGTCAGGAGGGGCAGCAGCCTCCGATACCA  
GGGGCCTTGTGTCCCTCTTTAGCCCCGGGTGCGCTCAGAAAATCCAGCTCGTAAACAC  
CAACGGCAGTTGGCACATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAAC  
AGGGTTCTTTGCCGCACTATTCTACAAACACAAATTCAACTCGTCTGGATGCCAGAG  
CGCTTGGCCAGCTGTCGCTCCATCGACAAGTTCGCTCAGGGGTGGGGTCCCCTCACTT  
AACTGAGCCTAACAGCTCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACC  
GTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGTCCAGTGTATTGCTTACCCCGAGCC  
CTGTTGTGGTGGGGACGACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAA  
CGACTCGGATGTGCTGATTCTCAACAACACGCGGCCCGCGGAGGCAACTGGTTTCGGC  
TGTACATGGATGAATGGCACTGGGTTACCAAGACGTGTGGGGGGCCCCCGTGCAACA  
TCGGGGGGGGCCGGCAACAACACCTTGACCTGCCCCACTGACTGTTTTCGGAAGCACCC  
CGAGGCCACCTACGCCAGATGCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTT  
CATTACCCATATAGGCTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGT  
TAGGATGTACGTGGGGGGCGTGGAGCACAGGTTCTGAAGCCGCATGCAATTGGACTCG  
AGGAGAGCGTTGTGACTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTG  
TCTACAACAGAGTGGCAGAGTGGCAGAGCTTAATTAATTAG

SEQ ID NO 39 (HCCI42)

GATCCCACAAGCTGTCGTGGACATGGTGGCGGGGGCCCATTTGGGGAGTCCTGGCGGG  
CCTCGCCTACTATTCCATGGTGGGGAACTGGGCTAAGGTTTTGGTTGTGATGCTACTCT



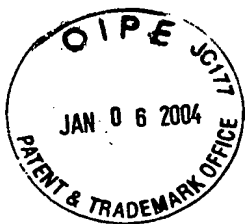
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## Fig. 21H

TTGCCGGCGTCGACGGGCATACCCGCGTGTCTCAGGAGGGGCAGCAGCCTCCGATACCA  
GGGGCCTTGTGTCCCTCTTTAGCCCCGGGTCTGGCTCAGAAAATCCAGCTCGTAAACAC  
CAACGGCAGTTGGCACATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAAC  
AGGGTTCTTTGCCGCACTATTCTACAAACACAAATTCAACTCGTCTGGATGCCCAGAG  
CGCTTGGCCAGCTGTCTGCTCCATCGACAAGTTCGCTCAGGGGTGGGGTCCCCTCACTT  
AACTGAGCCTAACAGCTCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACC  
GTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGTCCAGTGTATTGCTTCACCCCGAGCC  
CTGTTGTGGTGGGGACGACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAA  
CGACTCGGATGTGCTGATTCTCAACAACACGCGGCCGCGCGAGGCAACTGGTTCGGC  
TGTACATGGATGAATGGCACTGGGTTCACCAAGACGTGTGGGGGGCCCCCGTGCAACA  
TCGGGGGGGGCCGGCAACAACACCTTGACCTGCCCCACTGACTGTTTTTCGGAAGCACCC  
CGAGGCCACCTACGCCAGATGCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTT  
CATTACCCATATAGGCTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGT  
TAGGATGTACGTGGGGGGCGTGGAGCACAGGTTTGAAGCCGCATGCAATTGGACTCG  
AGGAGAGCGTTGTGACTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTG  
TCTACAACAGGTGATCGAGGGGCAGACACCATCACCACCATCACTAATAG

SEQ ID NO 41 (HCCI43)

ATGGTGGGGAACTGGGCTAAGGTTTTGGTTGTGATGCTACTCTTTGCCGGCGTCGACG  
GGCATAACCCGCGTGTCTCAGGAGGGGCAGCAGCCTCCGATACCAGGGGCCTTGTGTCCCT  
CTTTAGCCCCGGGTCTGGCTCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCAC  
ATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCAC  
TATTCTACAAACACAAATTCAACTCGTCTGGATGCCCAGAGCGCTTGGCCAGCTGTCTG  
CTCCATCGACAAGTTCGCTCAGGGGTGGGGTCCCCTCACTTAACTGAGCCTAACAGC  
TCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCG  
CGTCTCAGGTGTGCGGTCCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGAC  
GACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTG  
ATTCTCAACAACACGCGGCCGCGCGAGGCAACTGGTTCGGCTGTACATGGATGAATG  
GCACTGGGTTCACCAAGACGTGTGGGGGGCCCCCGTGCAACATCGGGGGGGCCGGCA  
ACAACACCTTGACCTGCCCCACTGACTGTTTTTCGGAAGCACCCCGAGGCCACCTACGC  
CAGATGCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTTCATTACCCATATAGG  
CTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGG  
GGGCGTGGAGCACAGGTTTGAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGA  
CTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTGTCTACAACAGAGTGG  
CAGAGCTTAATTAATTAG



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## Fig. 21I

SEQ ID NO 43 (HCCI44)

ATGGTGGGGAAGTGGGCTAAGGTTTTGGTTGTGATGCTACTCTTTGCCGGCGTCGACG  
GGCATACCCGCGTGTGTCAGGAGGGGGCAGCAGCCTCCGATACCAGGGGGCCTTGTGTCCCT  
CTTTAGCCCCGGGTCTGGCTCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCAC  
ATCAACAGGACTGCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCAC  
TATTCTACAAACACAAATTCAACTCGTCTGGATGCCAGAGCGCTTGGCCAGCTGTGCG  
CTCCATCGACAAGTTCGCTCAGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGC  
TCGGACCAGAGGCCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCG  
CGTCTCAGGTGTGCGGTCCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGAC  
GACCGATCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTG  
ATTCTCAACAACACGCGGCCGCGGAGGCAACTGGTTCGGCTGTACATGGATGAATG  
GCACTGGGTTACCAAGACGTGTGGGGGCCCCCGTGCAACATCGGGGGGGCCGGCA  
ACAACACCTTGACCTGCCCCACTGACTGTTTTTCGGAAGCACCCCGAGGCCACCTACGC  
CAGATGCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTTCATTACCCATATAGG  
CTCTGGCACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGG  
GGGCGTGGAGCACAGGTTTGAAGCCGCATGCAATTGGAAGTTCGAGGAGAGCGTTGTGA  
CTTGGAGGACAGGGATAGATCAGAGCTTAGCCCGCTGCTGCTGTCTACAACAGGTGAT  
CGAGGGCAGACACCATCACCACCATCACTAATAG

SEQ ID NO 45 (HCCL64)

ATGGTGGCGGGGGGCCATTGGGGAGTCCTGGCGGGCCTCGCCTACTATTCCATGGTGG  
GGAAGTGGGCTAAGGTTTTGGTTGTGATGCTACTCTTTGCCGGCGTCGACGGGCATAC  
CCGCGTGTGTCAGGAGGGGGCAGCAGCCTCCGATACCAGGGGGCCTTGTGTCCCTCTTTAGC  
CCCGGGTCTGGCTCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCACATCAAC  
AGGACTGCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCACTATTCT  
ACAAACACAAATTCAACTCGTCTGGATGCCAGAGCGCTTGGCCAGCTGTGCTCCAT  
CGACAAGTTCGCTCAGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGCTCGGAC  
CAGAGGCCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCGCGTCTC  
AGGTGTGCGGTCCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGACGACCGA  
TCGGTTTGGTGTCCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTGATTCTC  
AACAAACACGCGGCCGCGCGAGGCAACTGGTTCGGCTGTACATGGATGAATGGCACT  
GGGTTACCAAGACGTGTGGGGGCCCCCGTGCAACATCGGGGGGGCCGGCAACAAC  
ACCTTGACCTGCCCCACTGACTGTTTTTCGGAAGCACCCCGAGGCCACCTACGCCAGAT  
GCGGTTCTGGGCCCTGGCTGACACCTAGGTGTATGGTTCATTACCCATATAGGCTCTGG  
CACTACCCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGGGGGCG



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## Fig. 21J

TGGAGCACAGGTTCTGAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGACTTGGA  
GGACAGGGATAGATCAGAGCTTAGCCCCGCTGCTGCTGTCTACAACAGAGTGGCAGATA  
CTGCCCTGTTCTTCACCACCCTGCCGGCCCTATCCACCGGCCTGATCCACCTCCATCA  
GAACATCGTGGACGTGCAATACCTGTACGGTGTAGGGTCGGCGGTTGTCTCCCTTGTC  
ATCAAATGGGAGTATGTCCTGTTGCTCTTCCTTCTCCTGGCAGACGCGCGCATCTGCGC  
CTGCTTATGGATGATGCTGCTGATAGCTCAAGCTGAGGCCGCCTTAGAGAACCTGGTG  
GTCCTCAATGCGGCGGCCGTGGCCGGGGCGCATGGCACTCTTTCCTTCCTTGTGTTCTT  
CTGTGCTGCCTGGTACATCAAGGGCAGGCTGGTCCCTGGTGCGGCATACGCCTTCTAT  
GGCGTGTGGCCGCTGCTCCTGCTTCTGCTGGCCTTACCACCACGAGCTTATGCCTAGTAA

SEQ ID NO 47 (HCCI65)

AATTTGGGTAAGGTCATCGATACCCTTACATGCGGCTTCGCCGACCTCGTGGGGGTACA  
TTCCGCTCGTCGGCGCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGGCGTCCG  
GTTTCTGGAGGACGGCGTGAACATGCAACAGGGAATTTGCCCGGTTGCTCTTTCTCT  
ATCTTCCTCTTGGCTTTGCTGTCCTGTCTGACCGTTCCAGCTTCCGCTTATGAAGTGCG  
CAACGTGTCCGGGATGTACCATGTCACGAACGACTGCTCCAACCTCAAGCATTGTGTAT  
GAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGAGAAC  
AACTCTTCCCGCTGCTGGGTAGCGCTCACCCCCACGCTCGCAGCTAGGAACGCCAGCG  
TCCCCACCACGACAATACGACGCCACGTCGATTTGCTCGTTGGGGCGGCTGCTTTCTG  
TTCCGCTATGTACGTGGGGGACCTCTGCGGATCTGTCTTCCTCGTCTCCAGCTGTTCA  
CCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATCCCGG  
CCACATAACGGGTACCGTATGGCTTGGGATATGATGATGAACTGGTGCCTACAACG  
GCCCTGGTGGTATCGCAGCTGCTCCGGATCCCACAAGCTGTCGTGGACATGGTGGCGG  
GGGCCCATTGGGGAGTCCTGGCGGGCCTCGCCTACTATTCCATGGTGGGGAACCTGGGC  
TAAGGTTTTGGTTGTGATGCTACTCTTTGCCGGCGTCGACGGGCATACCCGCGTGTCAG  
GAGGGGCAGCAGCCTCCGATACCAGGGGCCTTGTGTCCCTCTTTAGCCCCGGGTGCGG  
TCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCACATCAACAGGACTGCCCT  
GAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCACTATTCTACAAACACAAA  
TTCAACTCGTCTGGATGCCAGAGCGCTTGGCCAGCTGTCGCTCCATCGACAAGTTCG  
CTCAGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGCTCGGACCAGAGGCCCTA  
CTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCGCGTCTCAGGTGTGCGGT  
CCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGACGACCGATCGGTTTGGTGT  
CCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTGATTCTCAACAACACGCGG  
CCGCCGCGAGGCAACTGGTTCGGCTGTACATGGATGAATGGCACTGGGTTACCAAGA  
CGTGTGGGGGGCCCCCGTGCAACATCGGGGGGGCCGGCAACAACACCTTGACCTGCC



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## Fig. 21K

CCACTGACTGTTTTTCGGAAGCACCCCGAGGCCACCTACGCCAGATGCGGTTCTGGGCC  
CTGGCTGACACCTAGGTGTATGGTTCATTACCCATATAGGCTCTGGCACTACCCCTGCA  
CTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGGGGGCGTGGAGCACAGGTT  
CGAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGACTTGGAGGACAGGGATAG  
ATCAGAGCTTAGCCCGCTGCTGCTGTCTACAACAGAGTGGCAGATACTGCCCTGTTCC  
TTCACCACCCTGCCGGCCCTATCCACCGGCCTGATCCACCTCCATCAGAACATCGTGG  
ACGTGCAATACCTGTACGGTGTAGGGTCGGCGGTTGTCTCCCTTGTCATCAAATGGGA  
GTATGTCCTGTTGCTCTTCCTTCTCCTGGCAGACGCGCGCATCTGCGCCTGCTTATGGA  
TGATGCTGCTGATAGCTCAAGCTGAGGCCGCCTTAGAGAACCTGGTGGTCCTCAATGC  
GGCGGCCGTGGCCGGGGCGCATGGCACTCTTTCCTTCTTGTGTTCTTCTGTGCTGCCT  
GGTACATCAAGGGCAGGCTGGTCCCTGGTGCGGCATACGCCTTCTATGGCGTGTGGCC  
GCTGCTCCTGCTTCTGCTGGCCTTACCACCACGAGCTTATGCCTAGTAAGCTT

SEQ ID NO 49 (HCCI66)

ATGAGCACGAATCCTAAACCTCAAAGAAAAACCAAACGTAACACCAACCGCCGCCCA  
CAGGACGTCAAGTTCCCGGGCGGTGGTCAGATCGTTGGTGGAGTTTACCTGTTGCCGC  
GCAGGGGCCCCAGGTTGGGTGTGCGCGCGACTAGGAAGACTTCCGAGCGGTGCGAAC  
CTCGTGGGAGGCGACAACCTATCCCCAAGGCTCGCCGACCCGAGGGTAGGGCCTGGG  
CTCAGCCCGGGTACCCTTGCCCCCTCTATGGCAATGAGGGCATGGGGTGGGCAGGATG  
GCTCCTGTACCCCCGCGGCTCTCGGCCTAGTTGGGGCCCTACAGACCCCCGGCGTAGG  
TCGCGTAATTTGGGTAAGGTCATCGATACCCTTACATGCGGCTTCGCCGACCTCGTGG  
GGTACATTCCGCTCGTCGGCGCCCCCCTAGGGGGCGCTGCCAGGGCCCTGGCGCATGG  
CGTCCGGGTTCTGGAGGACGGCGTGAACATGCAACAGGGAATTTGCCCGGTTGCTCT  
TTCTCTATCTTCCTCTTGCTTTGCTGTCTGTGACCGTTCCAGCTTCCGCTTATGAA  
GTGCGCAACGTGTCCGGGATGTACCATGTCACGAACGACTGCTCCAACTCAAGCATTG  
TGTATGAGGCAGCGGACATGATCATGCACACCCCCGGGTGCGTGCCCTGCGTTCGGGA  
GAACAACTCTTCCCGCTGCTGGGTAGCGCTACCCCCACGCTCGCAGCTAGGAACGCC  
AGCGTCCCCACCACGACAATACGACGCCACGTCGATTTGCTCGTTGGGGCGGCTGCTT  
TCTGTTCCGCTATGTACGTGGGGGACCTCTGCGGATCTGTCTTCCTCGTCTCCAGCTG  
TTCACCATCTCGCCTCGCCGGCATGAGACGGTGCAGGACTGCAATTGCTCAATCTATC  
CCGGCCACATAACGGGTCACCGTATGGCTTGGGATATGATGATGAACTGGTCGCCTAC  
AACGGCCCTGGTGGTATCGCAGCTGCTCCGGATCCCACAAGCTGTCGTGGACATGGTG  
GCGGGGGCCCATTTGGGGAGTCCTGGCGGGCCTCGCCTACTATTCCATGGTGGGGAACT  
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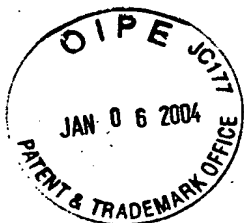


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## Fig. 21L

TCGGCTCAGAAAATCCAGCTCGTAAACACCAACGGCAGTTGGCACATCAACAGGACT  
GCCCTGAACTGCAACGACTCCCTCCAAACAGGGTTCTTTGCCGCACTATTCTACAAAC  
ACAAATTCAACTCGTCTGGATGCCCAGAGCGCTTGGCCAGCTGTCGCTCCATCGACAA  
GTTTCGCTCAGGGGTGGGGTCCCCTCACTTACACTGAGCCTAACAGCTCGGACCAGAGG  
CCCTACTGCTGGCACTACGCGCCTCGACCGTGTGGTATTGTACCCGCGTCTCAGGTGT  
GCGGTCCAGTGTATTGCTTCACCCCGAGCCCTGTTGTGGTGGGGACGACCGATCGGTT  
TGGTGTCCCCACGTATAACTGGGGGGCGAACGACTCGGATGTGCTGATTCTCAACAAC  
ACGCGGCGCGCGGAGGCAACTGGTTCGGCTGTACATGGATGAATGGCACTGGGTTCA  
CCAAGACGTGTGGGGGCCCCCGTGCAACATCGGGGGGGCCGGCAACAACACCTTGA  
CCTGCCCACTGACTGTTTTTCGGAAGCACCCCGAGGCCACCTACGCCAGATGCGGTTT  
TGGGCCCTGGCTGACACCTAGGTGTATGGTTTATTACCCATATAGGCTCTGGCACTAC  
CCCTGCACTGTCAACTTCACCATCTTCAAGGTTAGGATGTACGTGGGGGGCGTGGAGC  
ACAGGTTTGAAGCCGCATGCAATTGGACTCGAGGAGAGCGTTGTGACTTGGAGGACA  
GGGATAGATCAGAGCTTAGCCCGCTGCTGCTGTCTACAACAGAGTGGCAGATACTGCC  
CTGTTCCCTTACCACCCTGCCGGCCCTATCCACCGGCCTGATCCACCTCCATCAGAAC  
ATCGTGGACGTGCAATACCTGTACGGTGTAGGGTCGGCGGTTGTCTCCCTTGTCATCA  
AATGGGAGTATGTCCTGTTGCTCTTCTCCTGGCAGACGCGCGCATCTGCGCCTGC  
TTATGGATGATGCTGCTGATAGCTCAAGCTGAGGCCGCCTTAGAGAACCTGGTGGTCC  
TCAATGCGGCGGCCGTGGCCGGGGCGCATGGCACTCTTTCCTTCTTGTGTTCTTCTGT  
GCTGCCTGGTACATCAAGGGCAGGCTGGTCCCTGGTGCGGCATACGCCTTCTATGGCG  
TGTGGCCGCTGCTCCTGCTTCTGCTGGCCTTACCACCACGAGCTTATGCCTAGTAA





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## Fig. 22

OD measured at 450 nm  
construct

Fraction	volume	dilution	39 Type 1b	40 Type 1b	62 Type 3a	63 Type 5a
START	23 ml	1/20	2.517	1.954	1.426	1.142
FLOW THROUGH	23 ml	1/20	0.087	0.085	0.176	0.120
1	0.4 ml	1/200	0.102	0.051	0.048	0.050
2			0.396	0.550	0.090	0.067
3			2.627	2.603	2.481	2.372
4			3	2.967	3	2.694
5			3	2.810	2.640	2.154
6			2.694	2.499	1.359	1.561
7			2.408	2.481	0.347	1.390
8			2.176	1.970	1.624	0.865
9			1.461	1.422	0.887	0.604
10			1.286	0.926	0.543	0.519
11			0.981	0.781	0.294	0.294
12			0.812	0.650	0.249	0.199
13			0.373	0.432	0.239	0.209
14			0.653	0.371	0.145	0.184
15			0.441	0.348	0.151	0.151
16			0.321	0.374	0.098	0.106
17			0.525	0.186	0.099	0.108
18			0.351	0.171	0.083	0.090
19			0.192	0.164	0.084	0.087

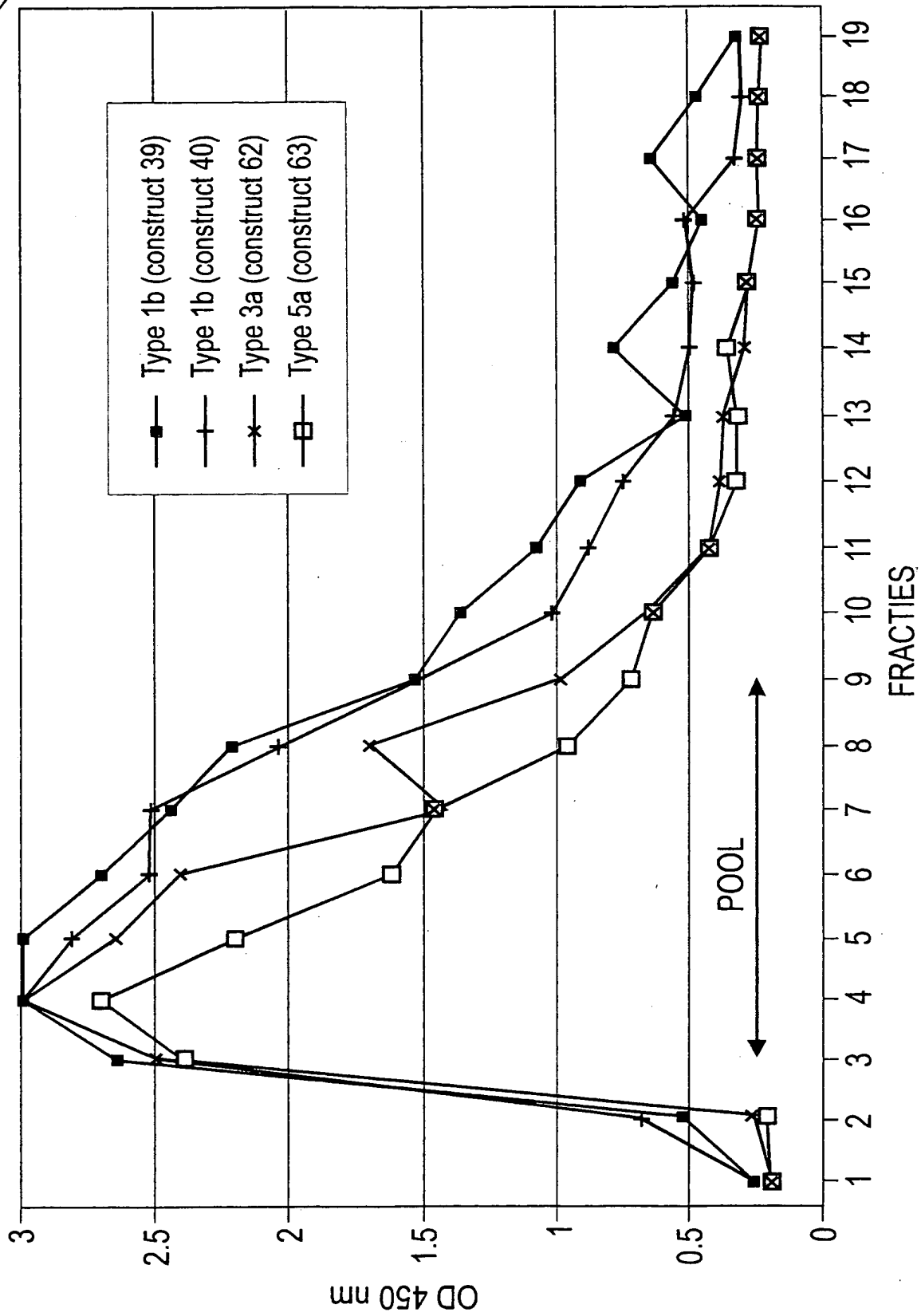


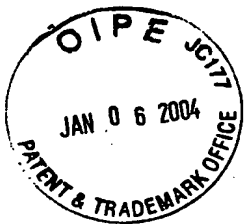
Fig. 23



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Fig. 24

Fraction	volume	dilution	OD measured at 450 nm			
			construct			
			39 Type 1b	40 Type 1b	62 Type 3a	63 Type 5a
20	250 $\mu$ l	1/200	0.072	0.130	0.096	0.051
21			0.109	0.293	0.084	0.052
22			0.279	0.249	0.172	0.052
23			0.093	0.151	0.297	0.054
24			0.080	0.266	0.438	0.056
25			0.251	0.100	0.457	0.048
26			3	1.649	0.722	0.066
27			3	3	2.528	0.889
28			3	3	3	2.345
29			3	3	2.849	2.580
30			2.227	1.921	1.424	1.333
31			0.263	0.415	0.356	0.162
32			0.071	0.172	0.154	0.064
33			0.103	0.054	0.096	0.057
34			0.045	0.045	0.044	0.051
35			0.043	0.047	0.045	0.046
36			0.045	0.045	0.049	0.040
37			0.045	0.047	0.046	0.048
38			0.046	0.048	0.047	0.057
39			0.045	0.048	0.050	0.057
40			0.046	0.049	0.048	0.049



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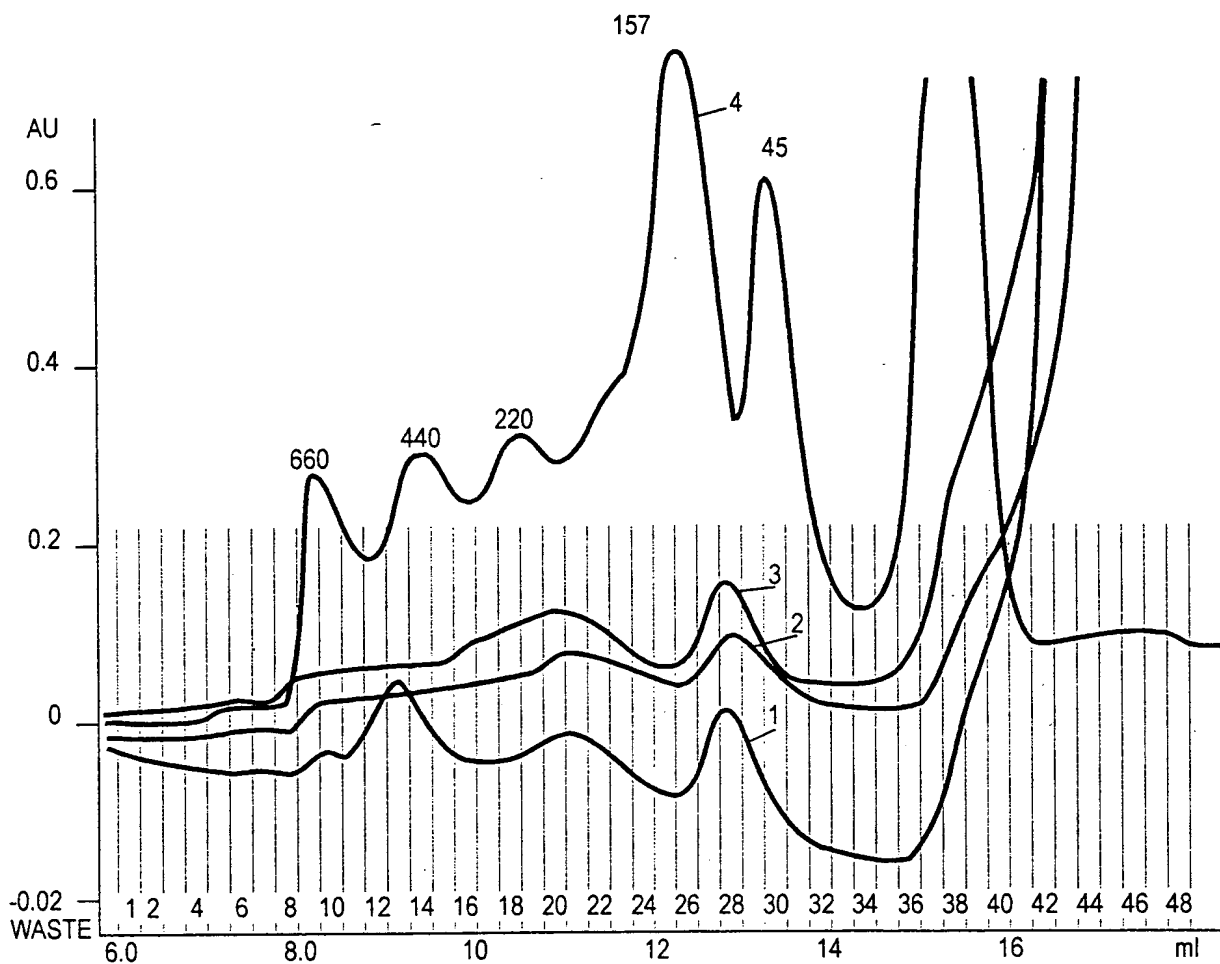


Fig. 25



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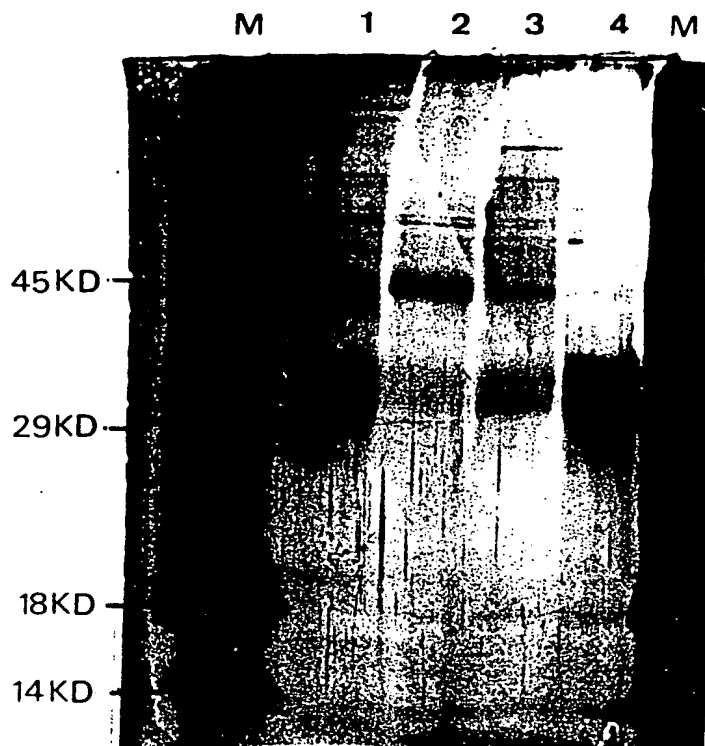


Fig. 26

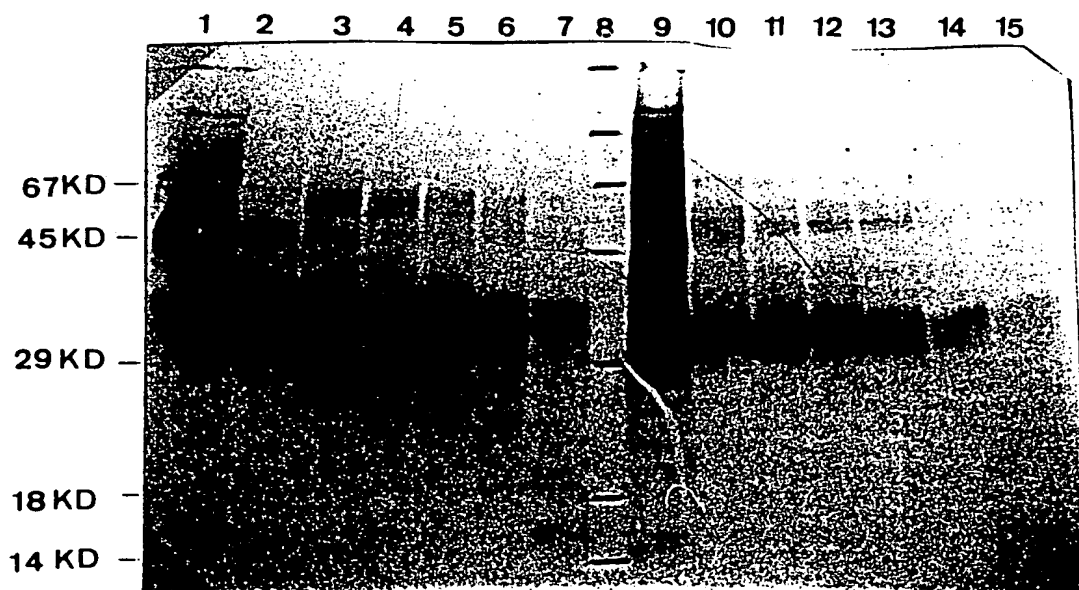


Fig. 27



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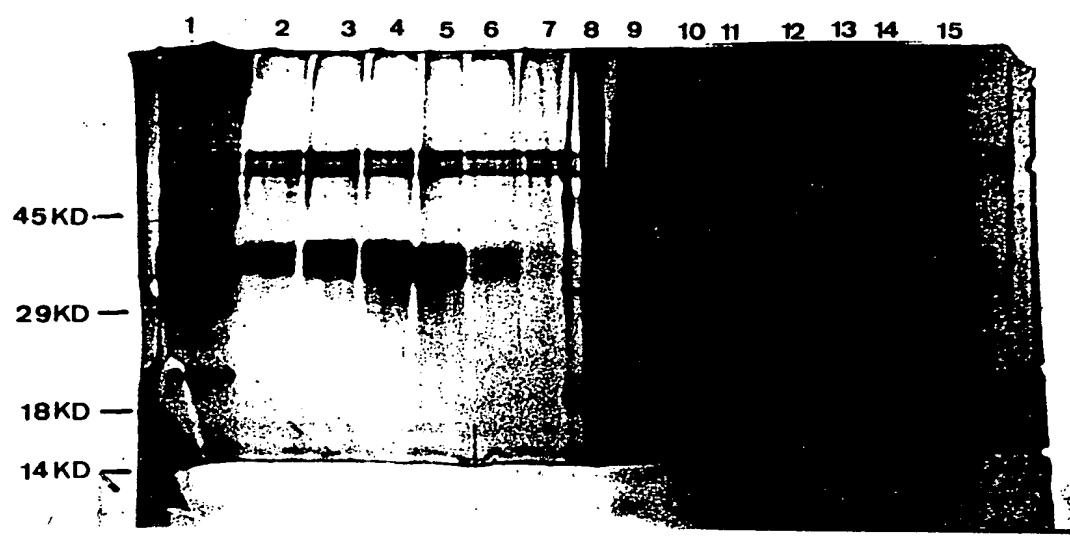


Fig.28

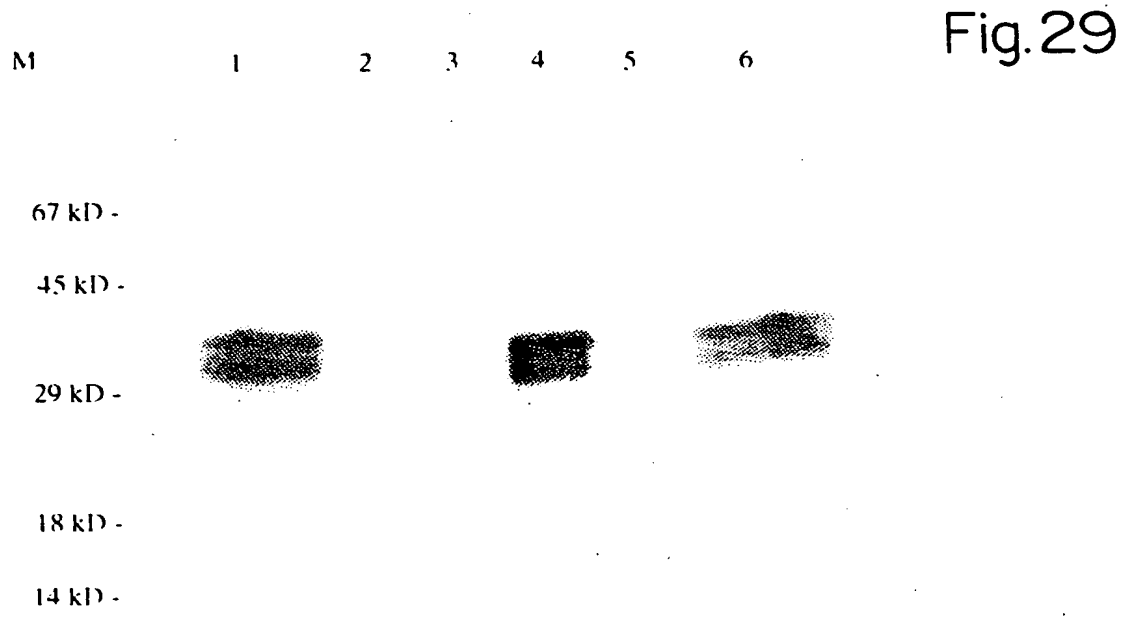
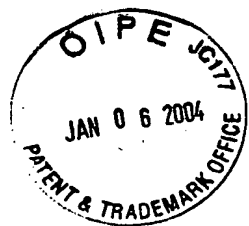


Fig.29

Lane 1: Crude Lysate  
Lane 2: Flow through Lentil Chromatography  
Lane 3: Wash with EMPIGEN Lentil Chromatography  
Lane 4: Eluate Lentil Chromatography  
Lane 5: Flow through during concentration lentil eluate  
Lane 6: Pool of E1 after Size Exclusion Chromatography



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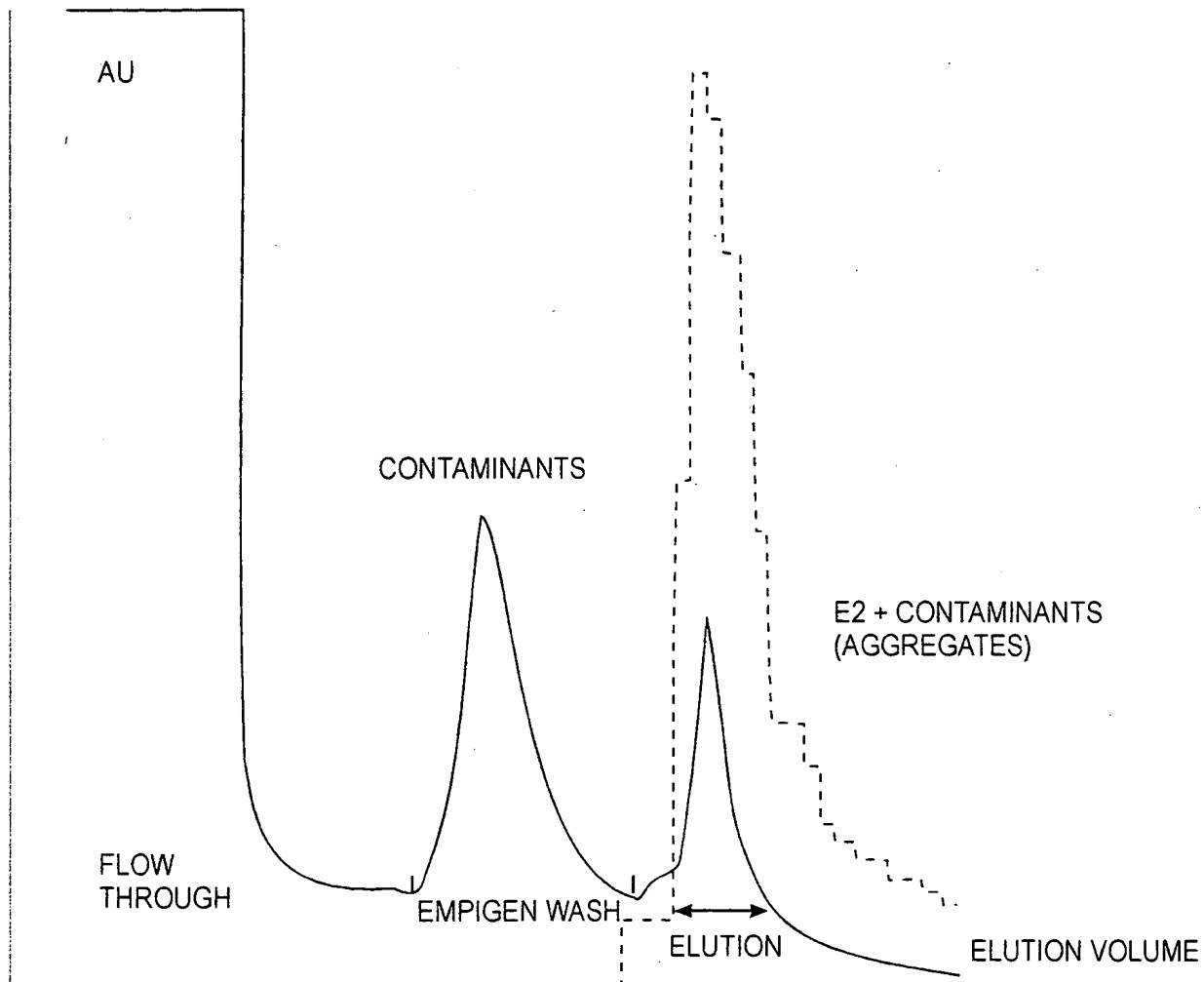
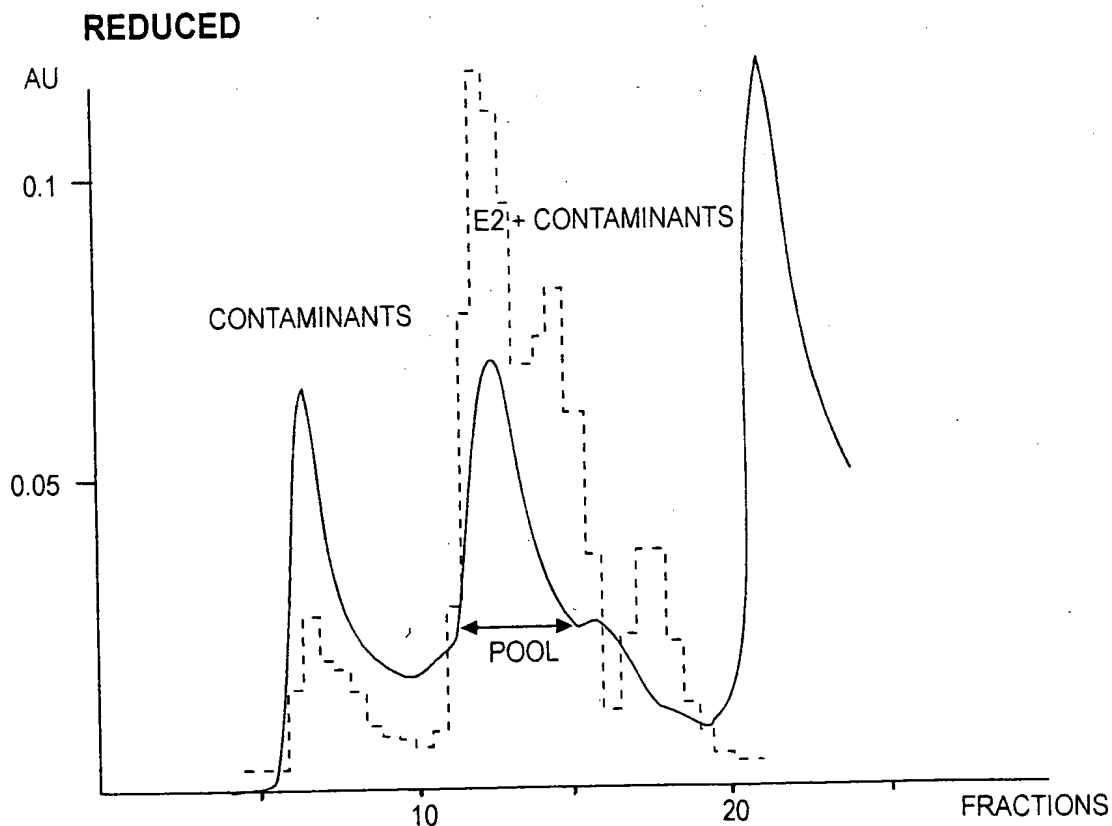
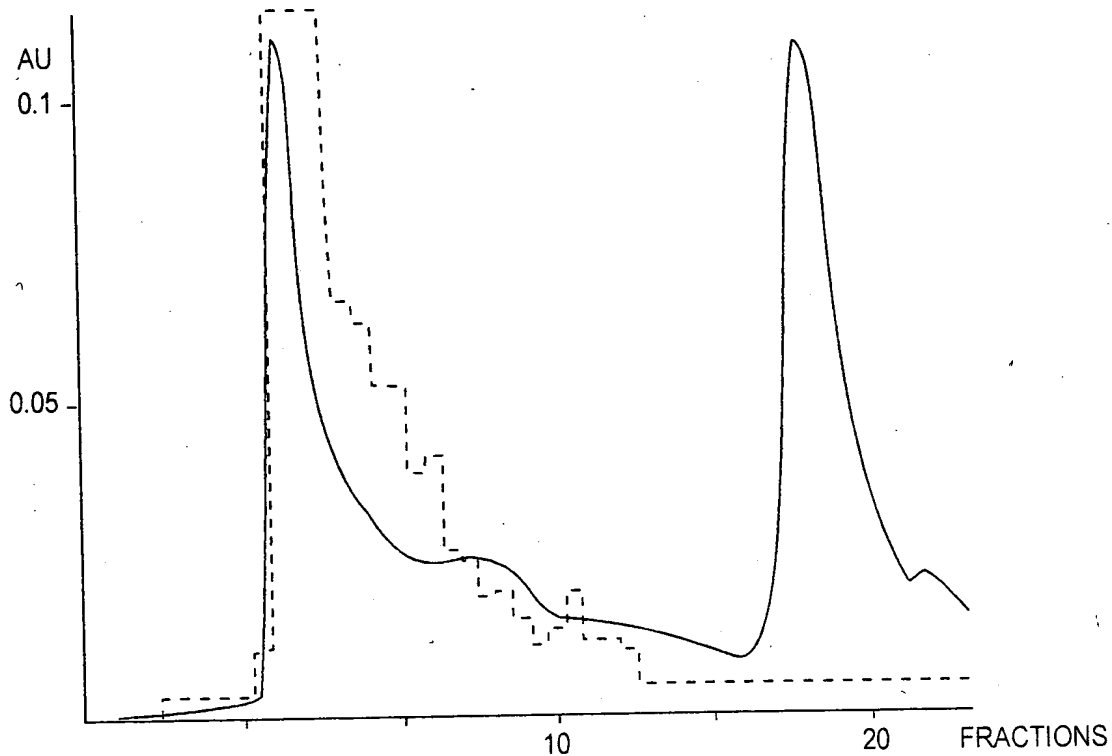


Fig. 30



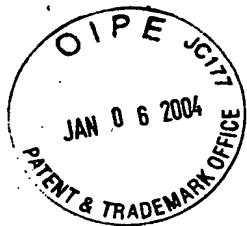
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**NON - REDUCED**  
**Fig. 31A**  
E2 + CONTAMINANTS (AGGREGATES)



**Fig. 31B**





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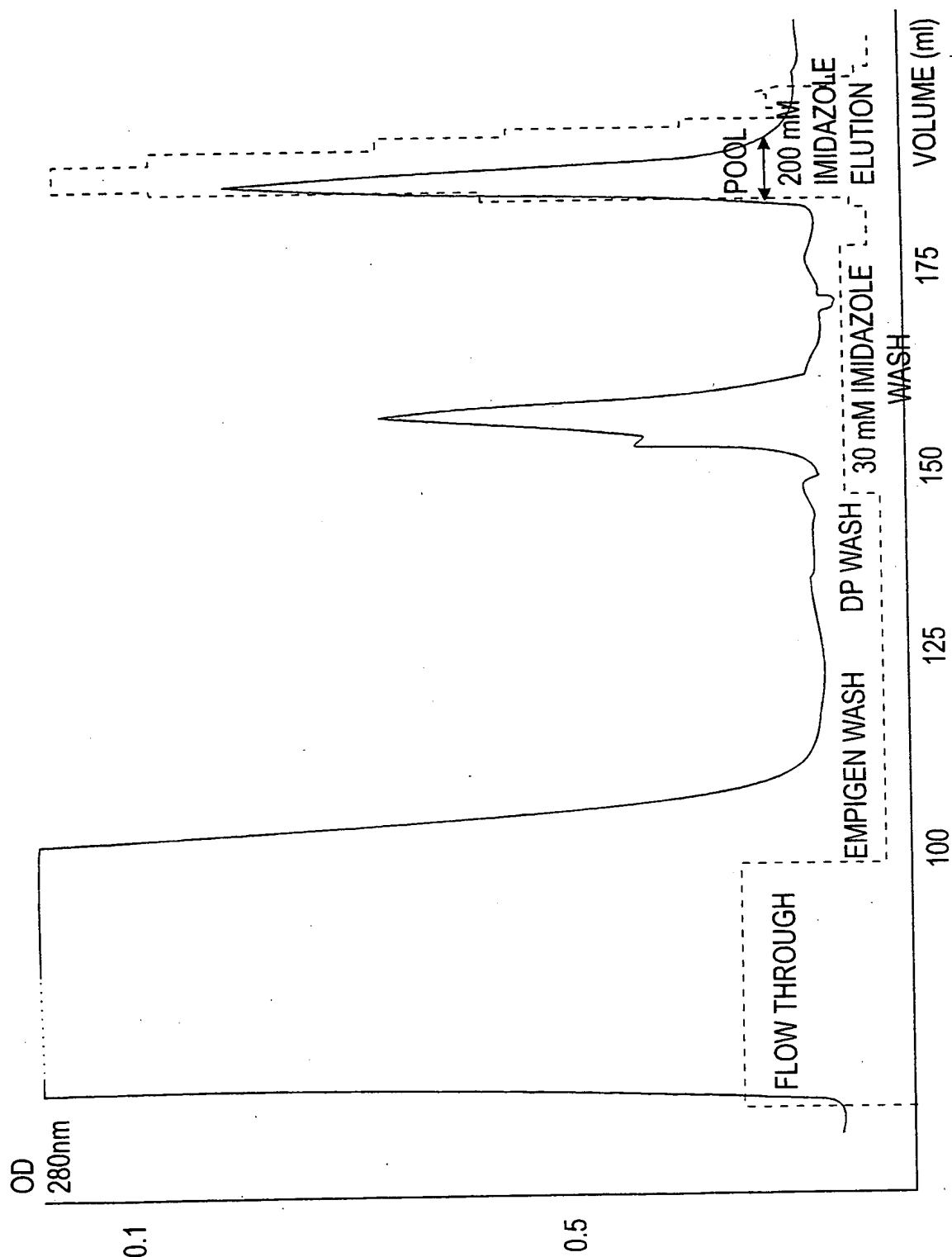
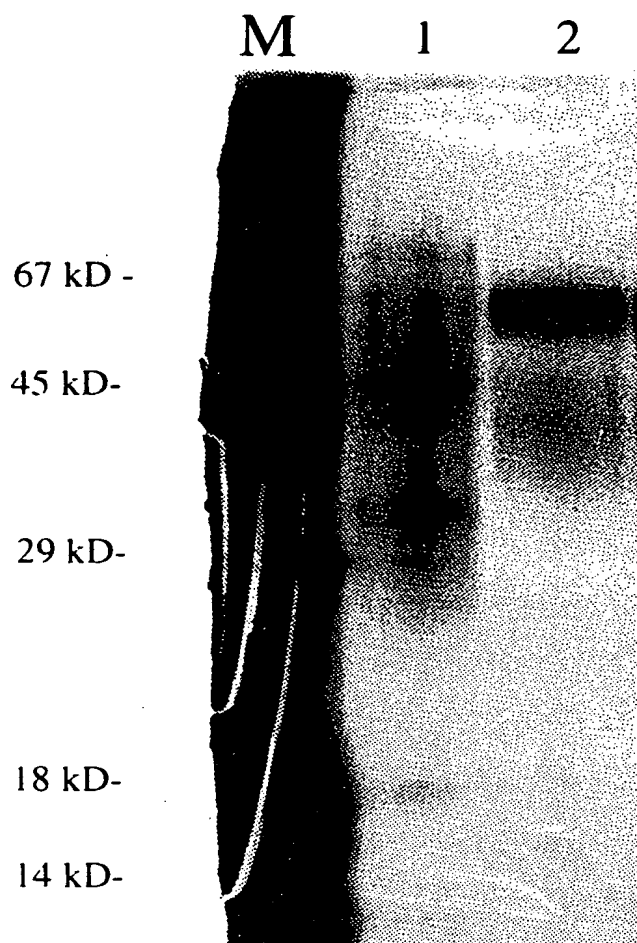


Fig. 32



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## SILVER STAIN OF PURIFIED E2

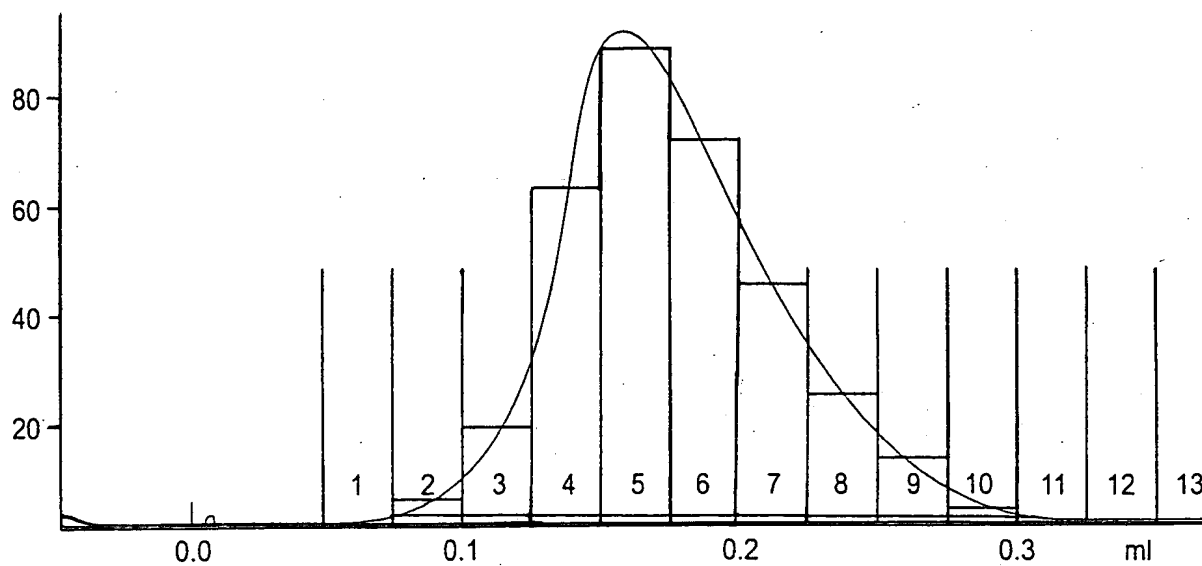


1. 30 mM IMIDAZOLE WASH Ni-IMAC
2. 0.5 ug E2

Fig. 33



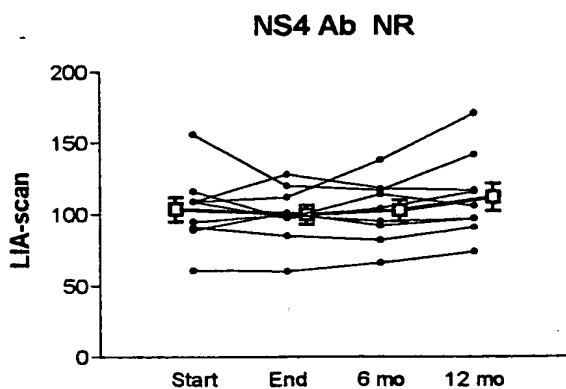
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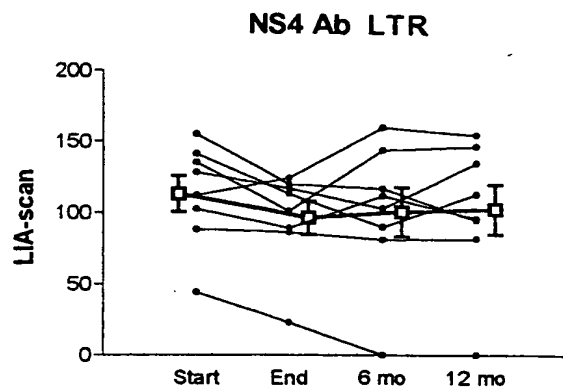
No.	Ret. (ml)	Peak start (ml)	Peak end (ml)	Dur (ml)	Area (ml*mAU)	Height (mAU)
1	-0.45	-0.46	-0.43	0.04	0.0976	4.579
2	1.55	0.75	3.26	2.51	796.4167	889.377
3	3.27	3.26	3.31	0.05	0.0067	0.224
4	3.33	3.32	3.33	0.02	0.0002	0.018

Total number of detected peaks = 4  
Total Area above baseline = 0.796522 ml\*AU  
Total area in evaluated peaks = 0.796521 ml\*AU  
Ratio peak area / total area = 0.999999  
Total peak duration = 2.613583 ml

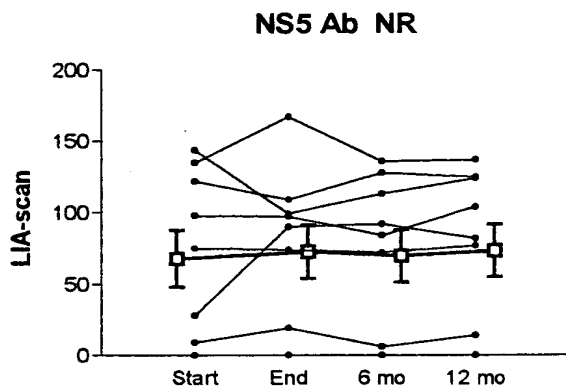
Fig. 34



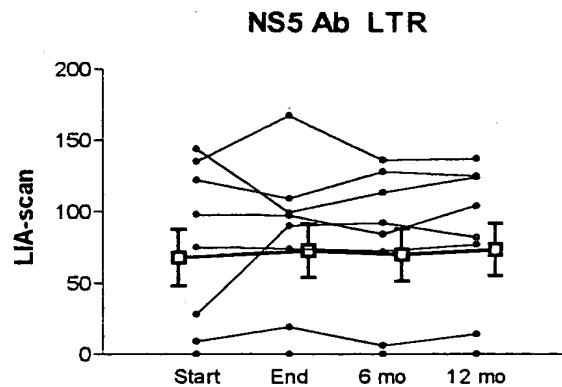
**Fig. 35A-1**



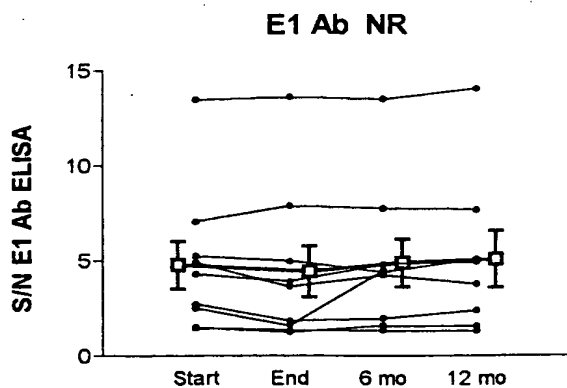
**Fig. 35A-2**



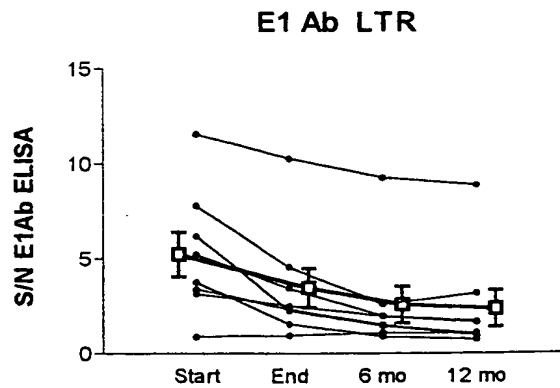
**Fig. 35A-3**



**Fig. 35A-4**



**Fig. 35A-5**



**Fig. 35A-6**



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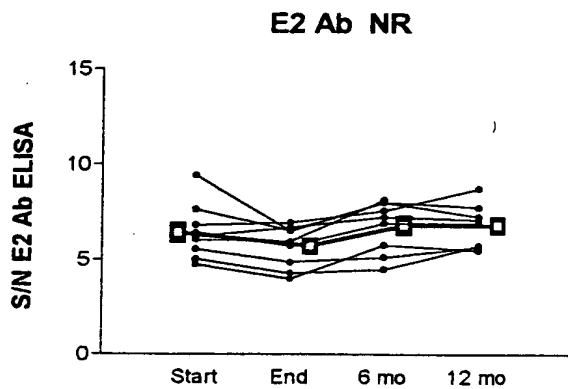


Fig. 35A-7

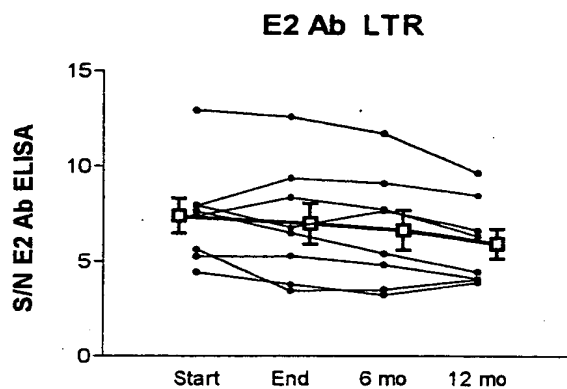


Fig. 35A-8



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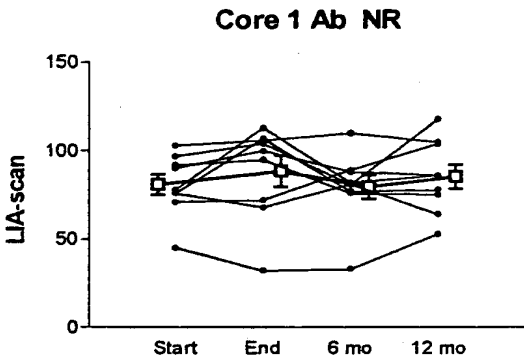


Fig. 35B-1

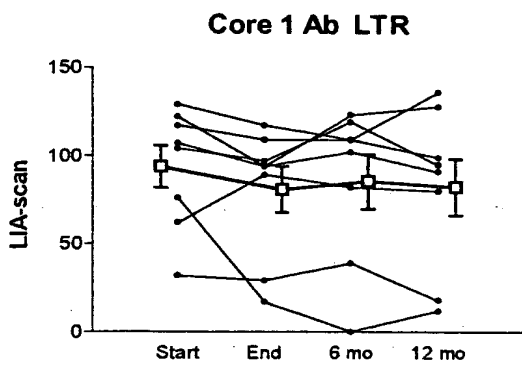


Fig. 35B-2

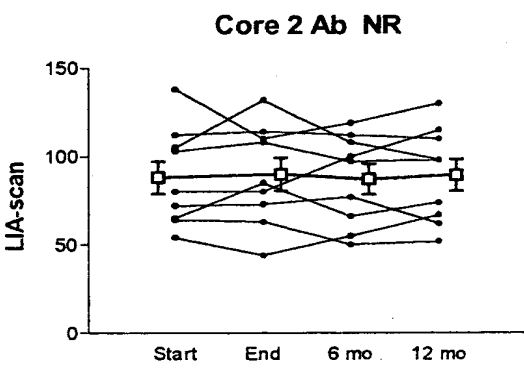


Fig. 35B-3

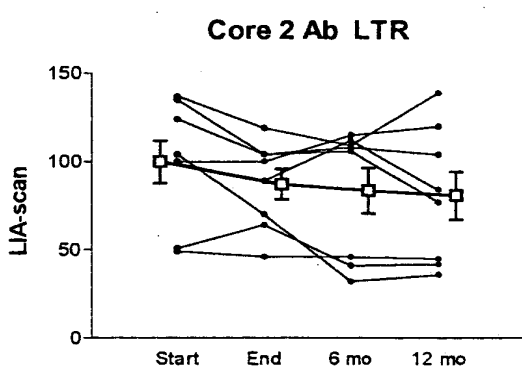


Fig. 35B-4

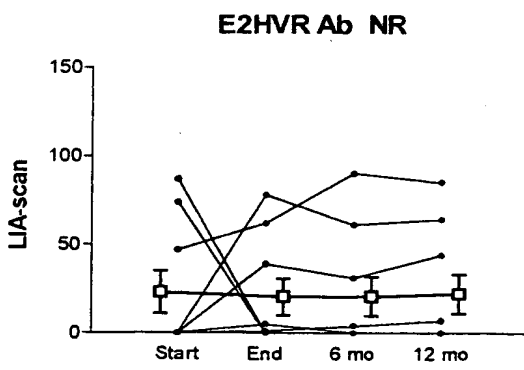


Fig. 35B-5

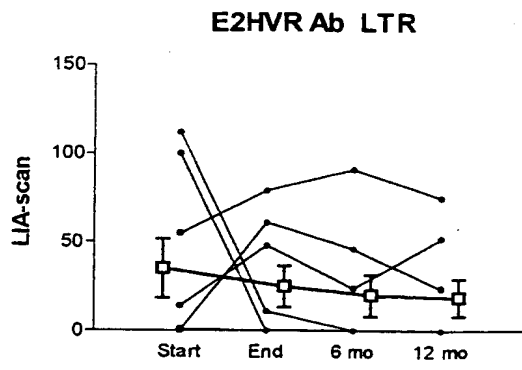
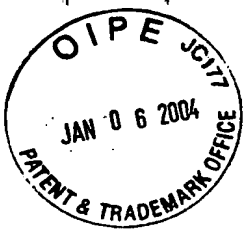


Fig. 35B-6



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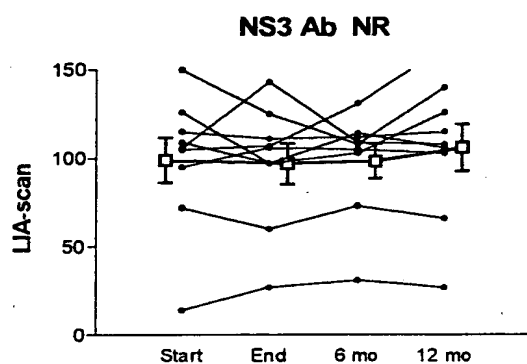


Fig. 35B-7

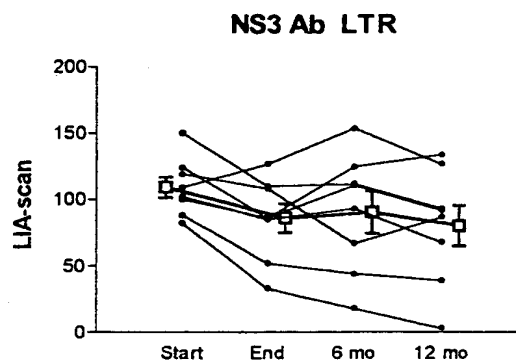


Fig. 35B-8



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Fig. 36A

E1 Ab

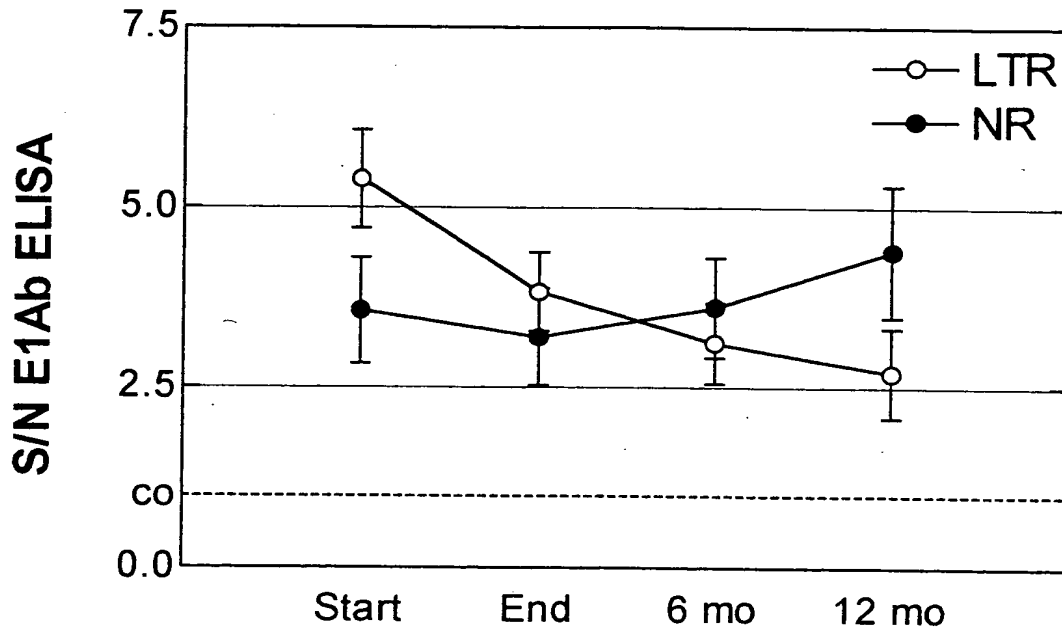
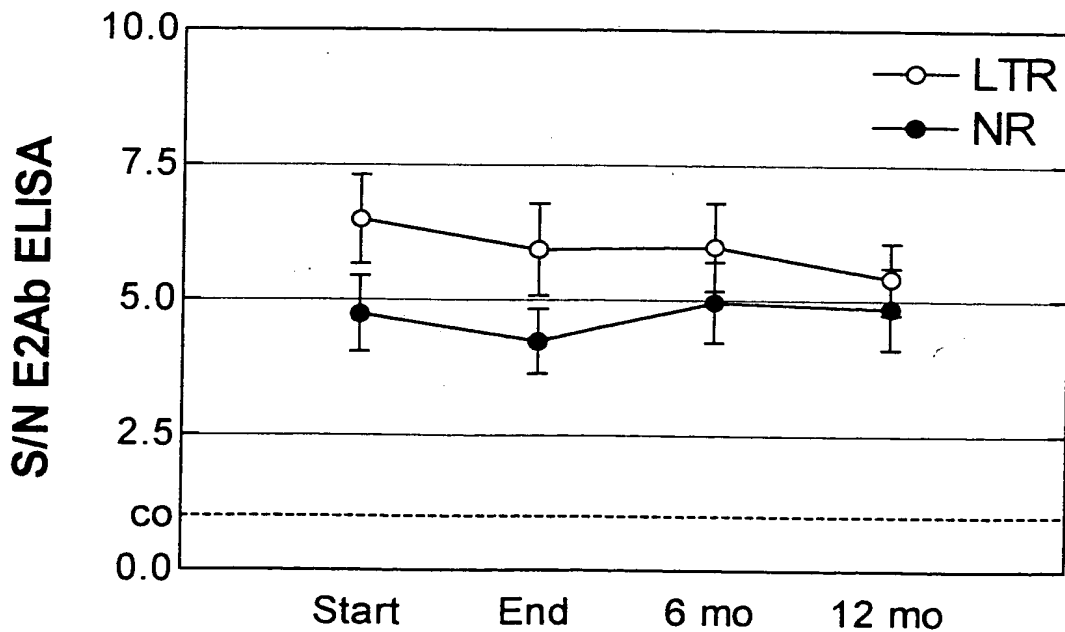


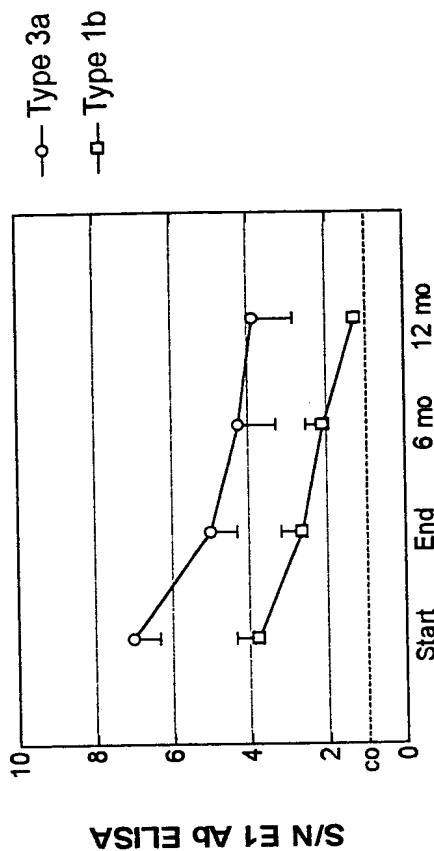
Fig. 36B

E2 Ab

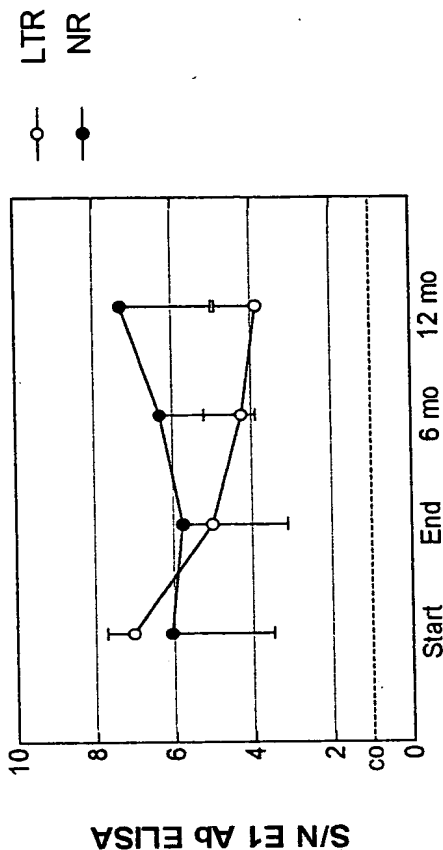




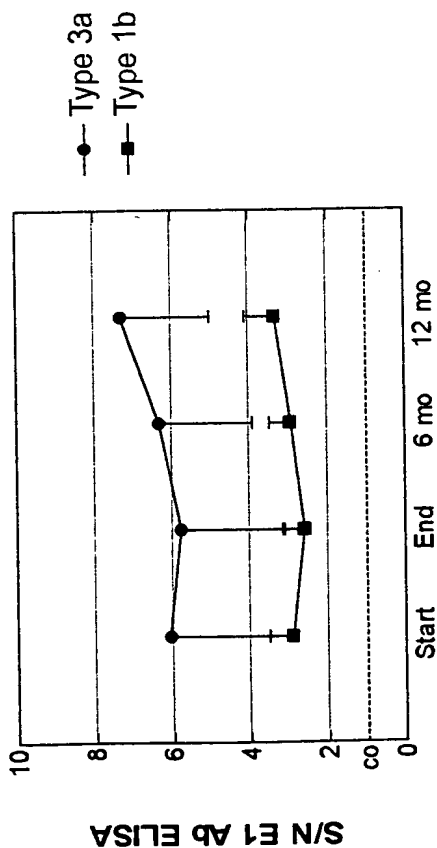
**Fig. 37B**  
 Long Term Responders



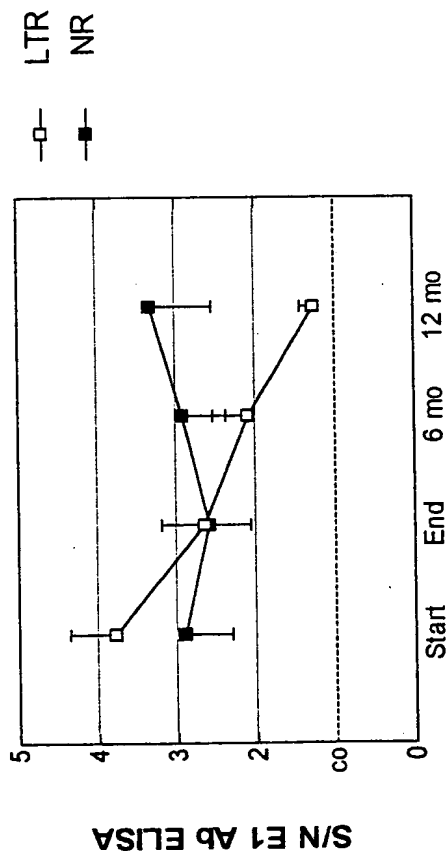
**Fig. 37D**  
 Type 3a



**Fig. 37A**  
 Non Responders



**Fig. 37C**  
 Type 1b





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## Fig. 38

Relative Map Positions of  
anti-E2 monoclonal antibodies

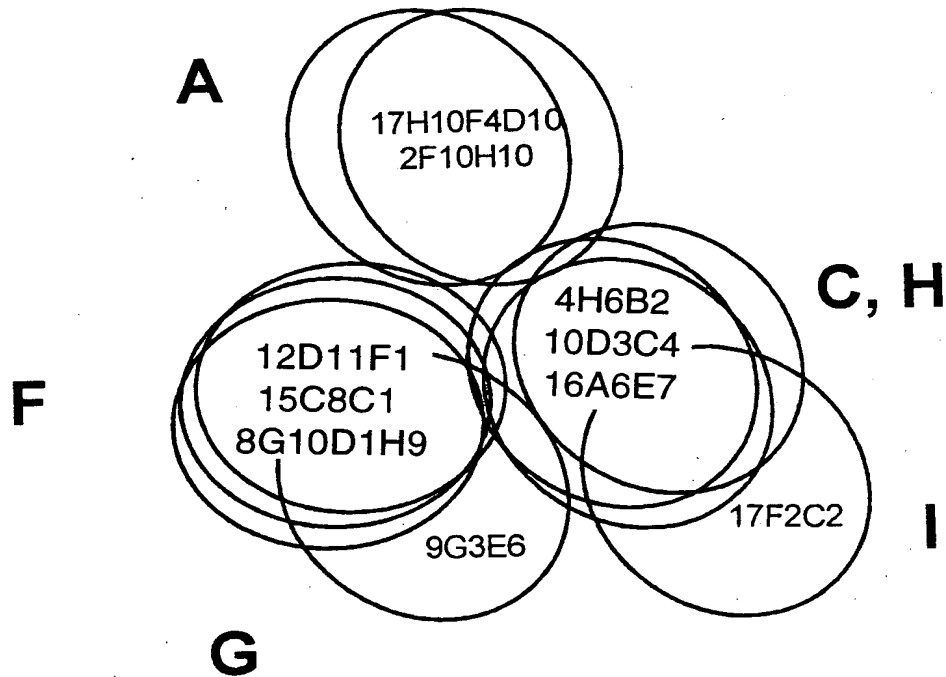
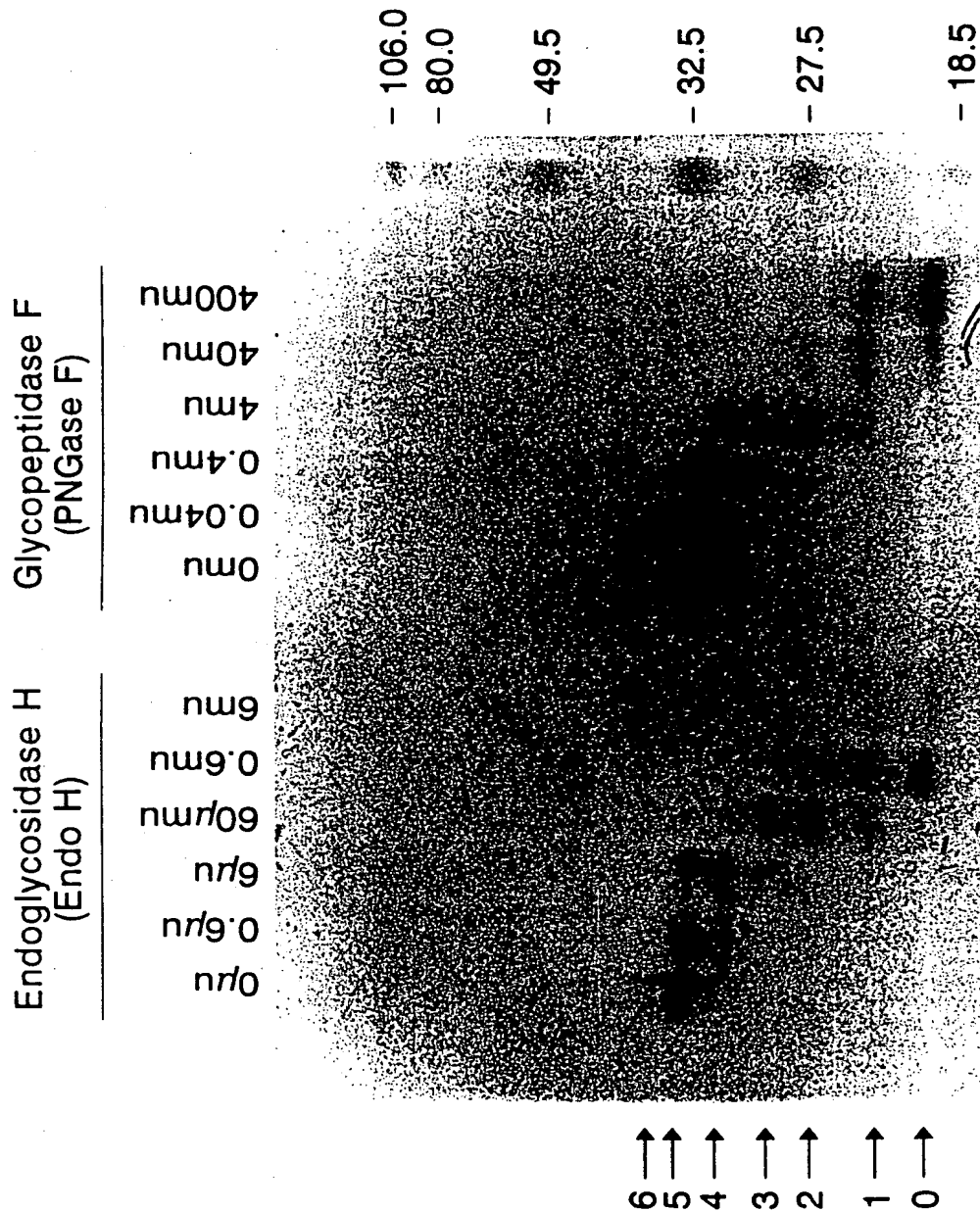


Fig.39

# PARTIAL DEGLYCOSYLATION OF HCV E1 ENVELOPE PROTEIN



# PARTIAL TREATMENT OF HCV E2\ E2s ENVELOPE PROTEINS BY PNGase F

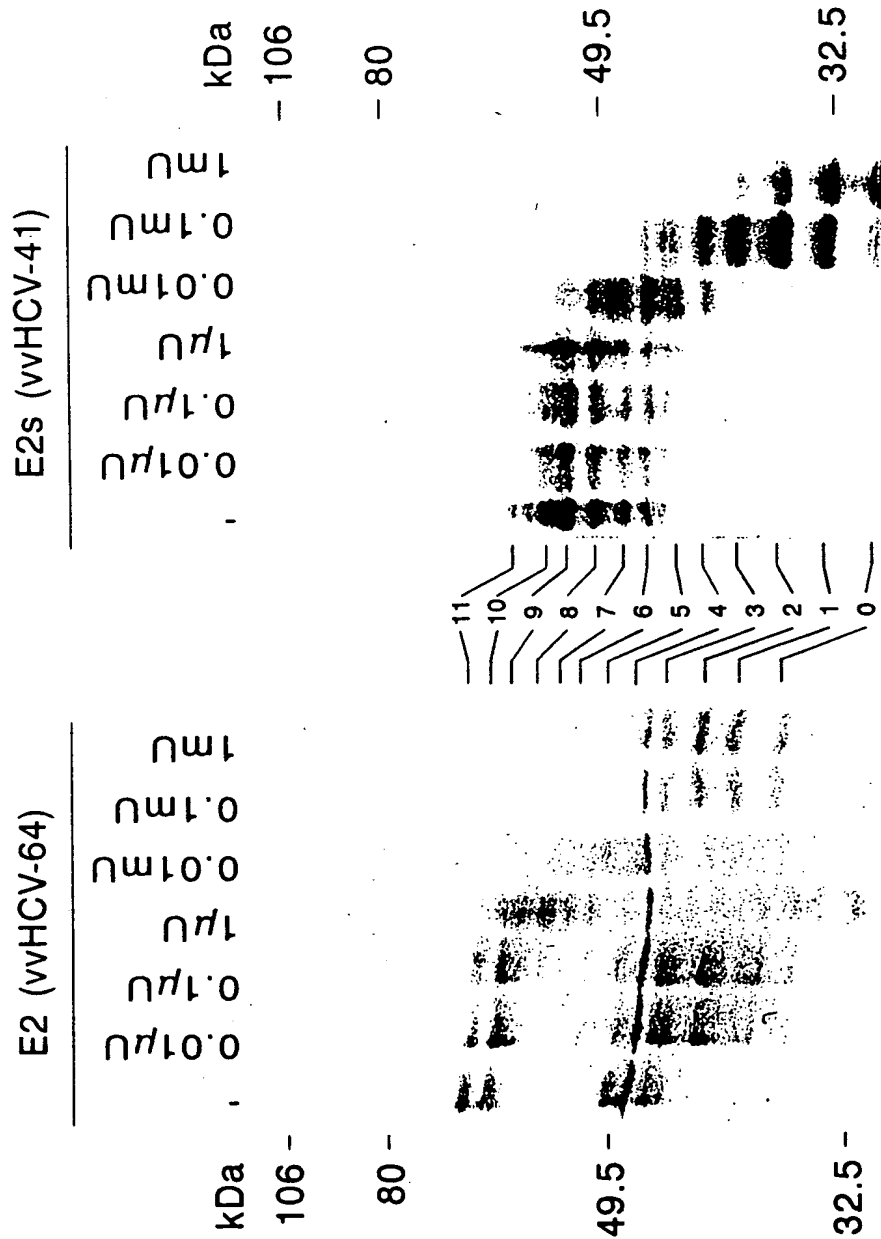


Fig. 40

Fig. 41 *In Vitro* Mutagenesis of HCV E1 glycoprotein

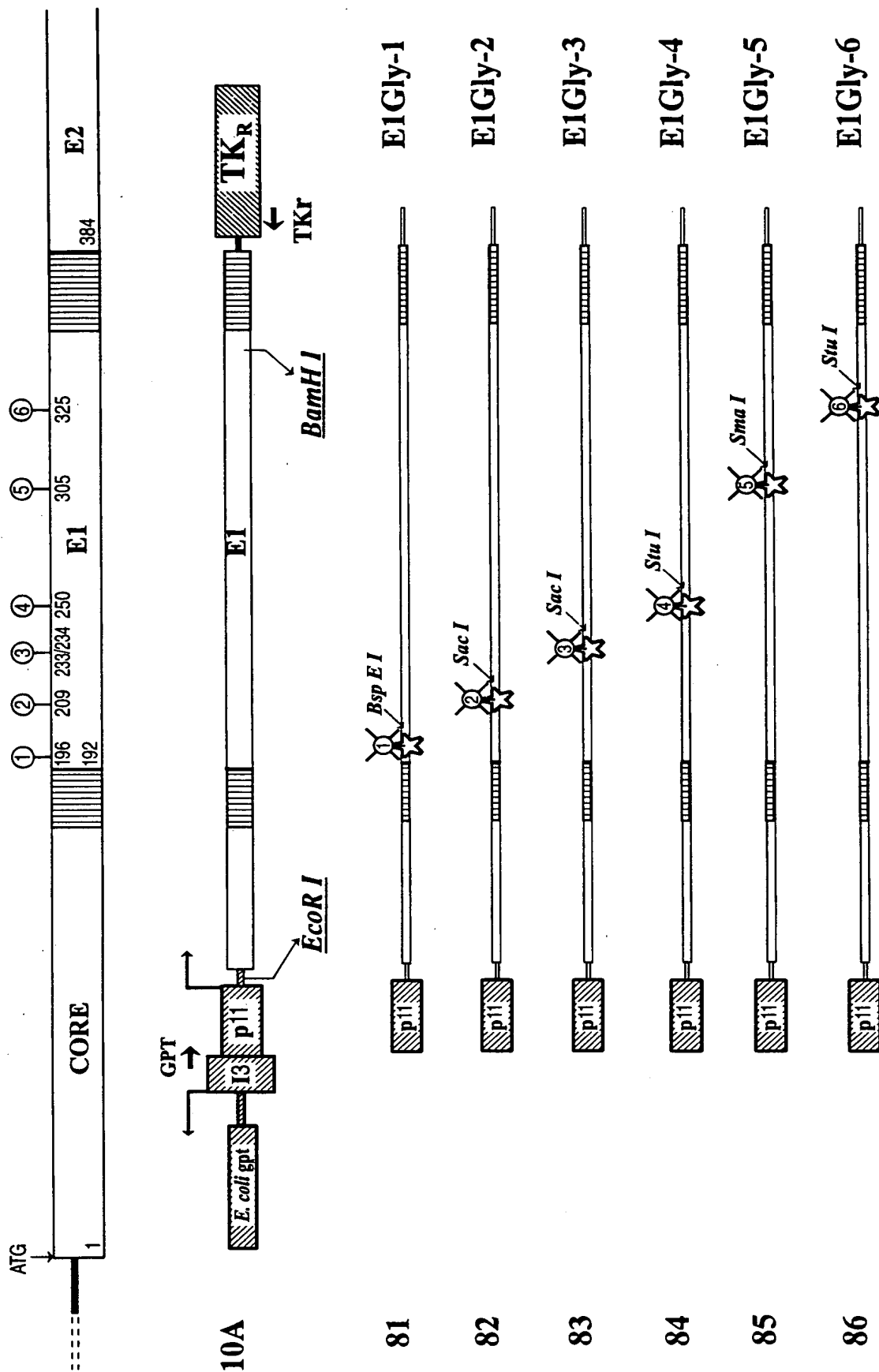
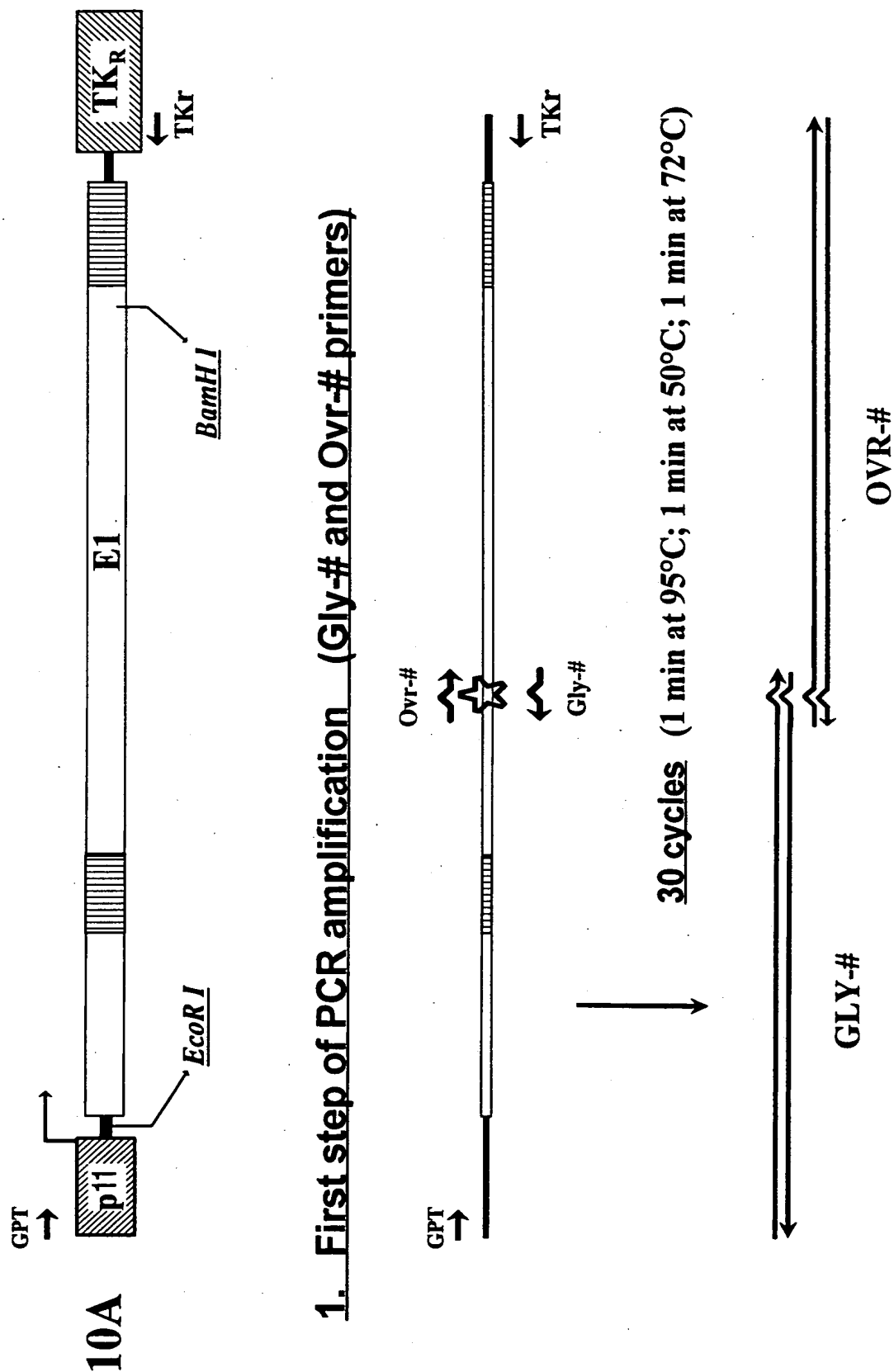


Fig. 42A *In Vitro* Mutagenesis of HCV E1 glycoprotein



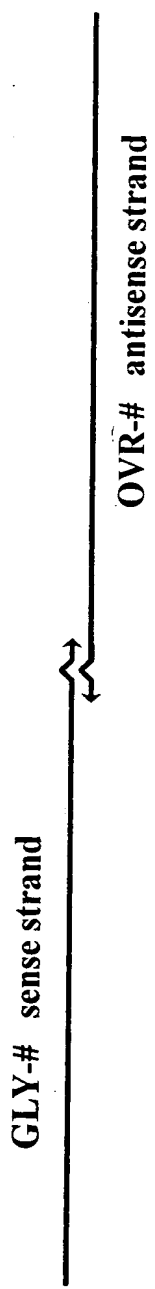


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2. Overlap extension and nested PCR

Fig. 42B

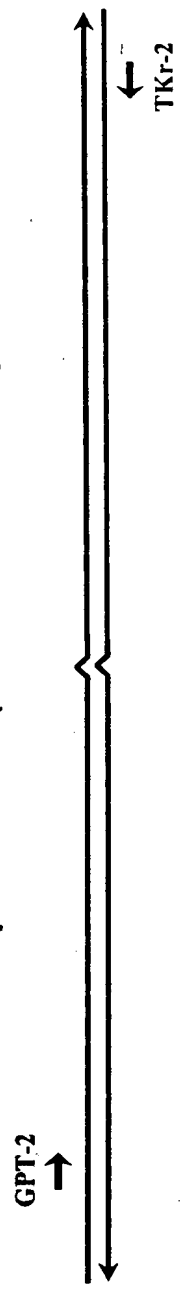
a. Overlap extension



↓  
2 cycles (1 min at 95°C; 1 min at 50°C; 1 min at 72°C)



b. Nested PCR amplification (GPT-2 and TKr-2 primers)



↓  
25 cycles (1 min at 95°C; 1 min at 55°C; 1 min at 72°C)

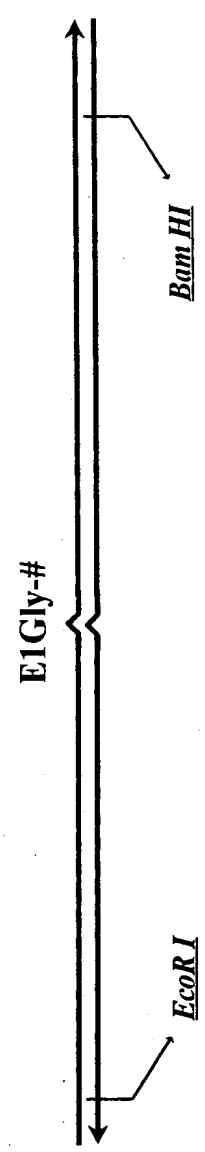
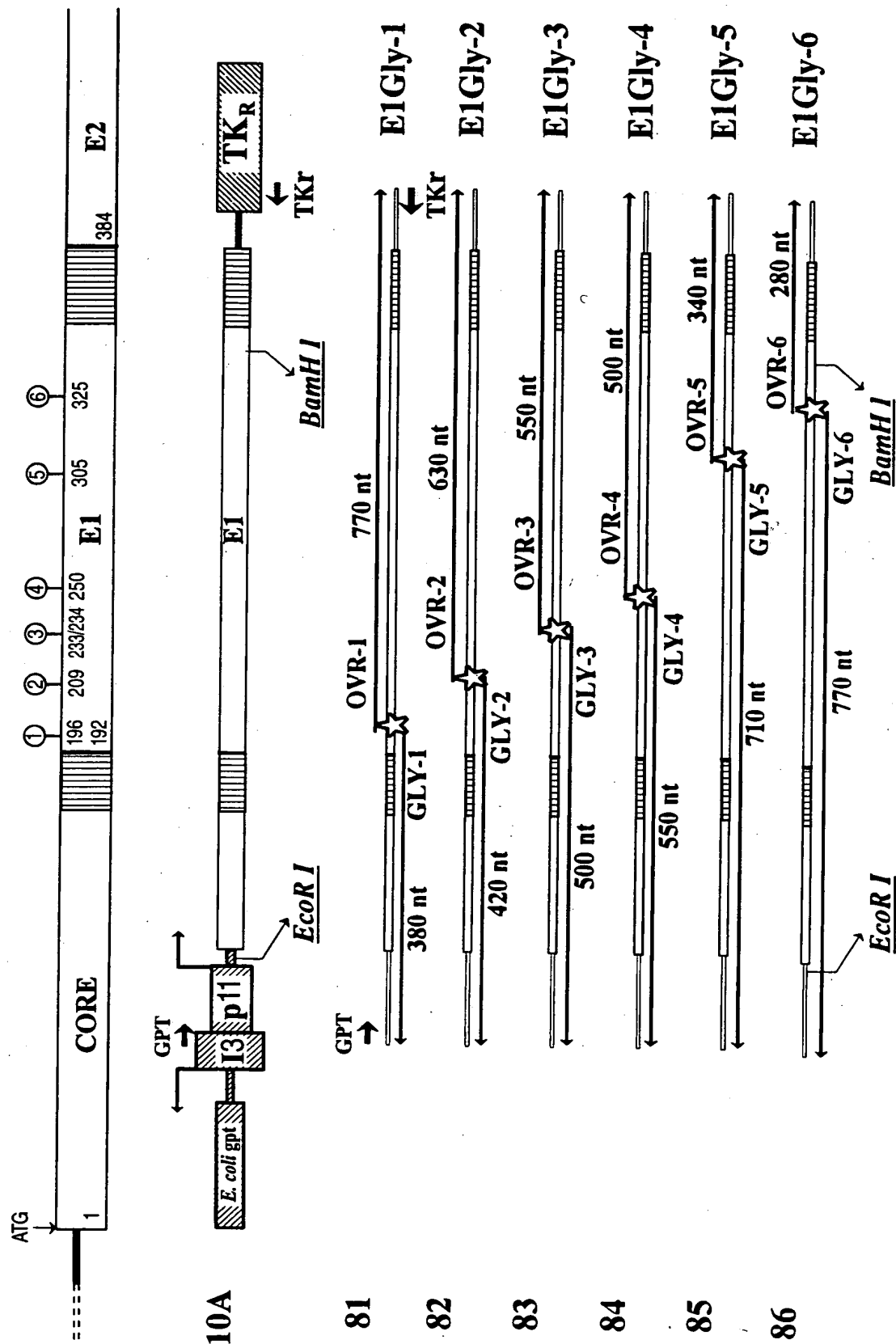


Fig. 43 *In Vitro* Mutagenesis of HCV E1 glycoprotein







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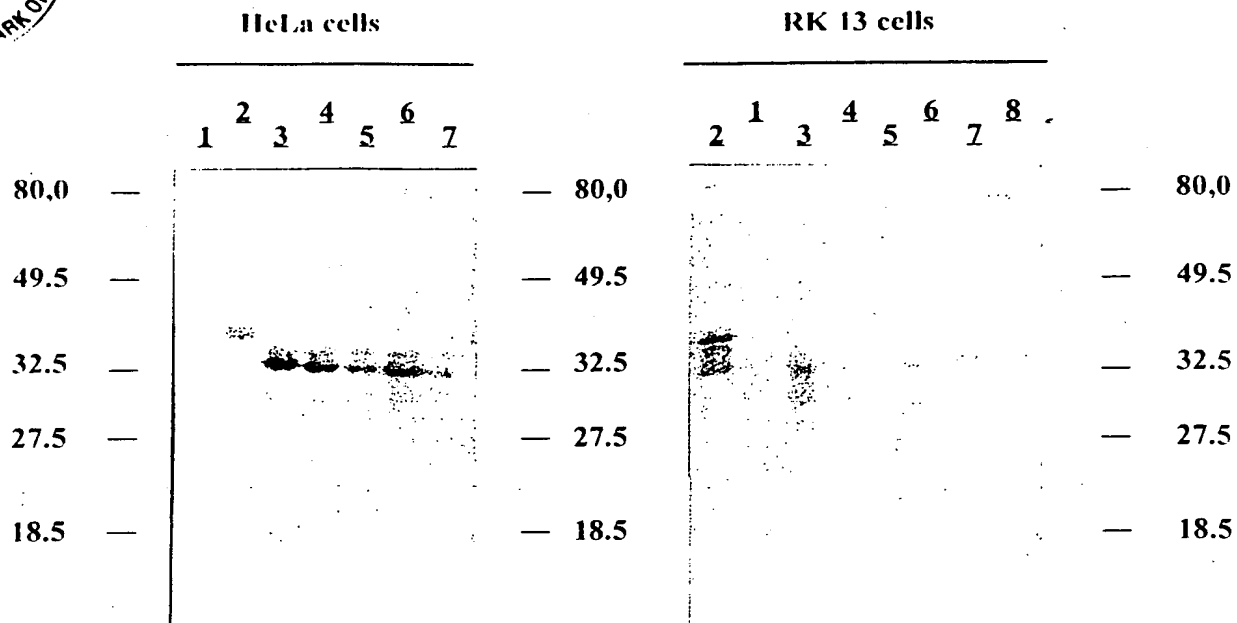


Fig. 44A

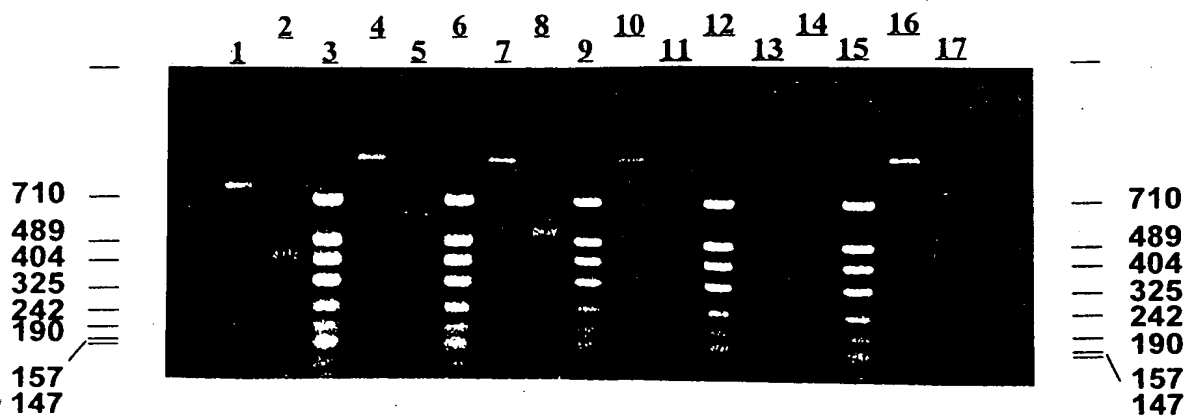


Fig. 44B



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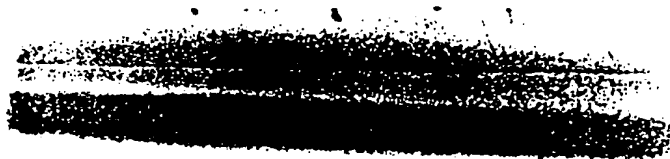


Fig. 45

KDa || 9 67 43 29 18  
| | | | |



Fig. 46